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ABSTRACT

This module is designed to assist instructors of prospective health services assistants to facilitate learning in health careers other than nursing. It may be used to provide classroom instruction, assist staff in providing on-the-job instruction, or provide selected units for independent study. The module is divided into seven units comprised of one to six lessons. Each lesson contains the following components: scope of unit, lesson objectives, information assignment (student), references, introduction to lesson, outline (content of lesson), summary and conclusion, interaction items (to stimulate and encourage student participation), classroom/laboratory activities, evaluation items (a written evaluation or skills demonstration), and transparency masters and handouts as needed. Unit titles are history of dentistry and overview, infection control, basic anatomy of the oral cavity, basic office procedures, operative equipment and procedures, radiology, and laboratory procedures. Other contents include a bibliography and a listing of learning objectives. (YLB)

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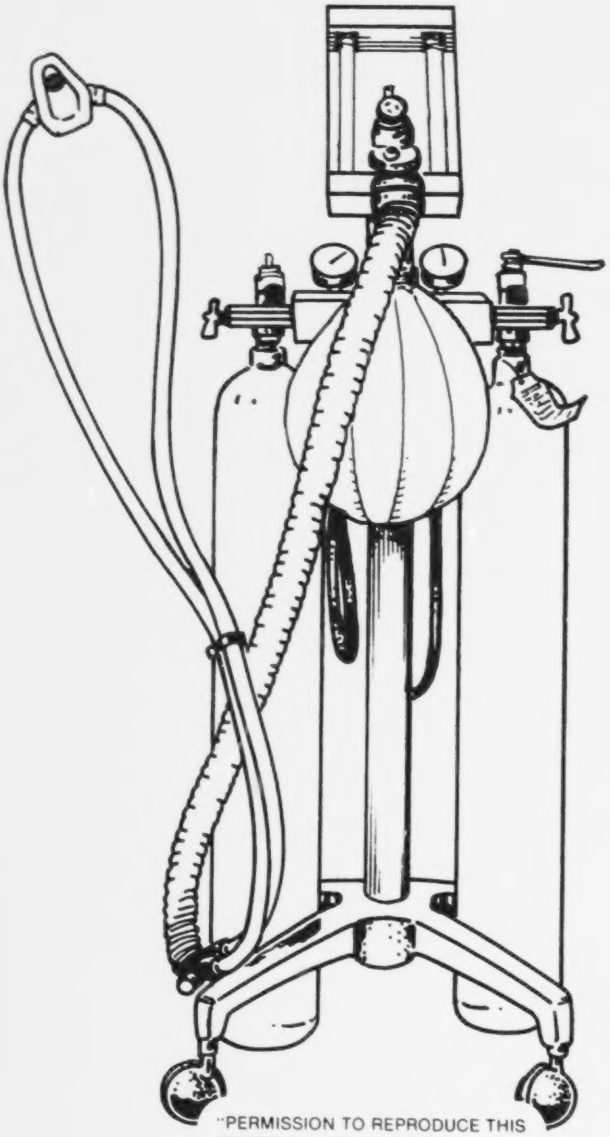

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DENTAL AIDE

Instructor's Guide

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PREFACE

This module was developed through combined efforts of dedicated individuals who are involved in the educational preparation of health care workers. Educators from both adult preparatory and postsecondary vocational programs cooperated in the design of a content outline from which this module ultimately evolved. The content outline identifies the tasks an aide-level worker in this career field would perform. Lesson plans are prepared to provide instruction for each of the tasks. The end product is an instructional module to assist Health Services Assistant educators to facilitate learning in health careers outside of nursing. With nursing being the Health Services Assistant educator's expertise, the result is limited insight into allied health careers. This module will function as a mechanism to provide instruction that would otherwise be lacking.

This module may be used to:

1) provide classroom instruction by the Health Services Assistant instructor,
   or
2) assist assigned staff to provide on-the-job instruction,
   or
3) provide selected units for independent study.

It is hoped that a combination of all three applications will be utilized.

The lesson plans allow the curriculum guide to be prepared in short, manageable segments. Each lesson contains the following components:

SCOPE OF UNIT

A teacher-centered statement that includes the goals of the unit; allows the reader to see the comprehensive content of each lesson

LESSON OBJECTIVES

A listing of skills the student will be able to perform as a result of the lesson; provides the basis for evaluation

INFORMATION ASSIGNMENT

An assignment for which the student is responsible

REFERENCE

Resources the instructor uses to support the lesson content

INTRODUCTION

A statement that sets the stage for the learning of the content; tells the student why the lesson is important

OUTLINE

The content of the lesson; may be informative in nature or it may be the steps of a procedure to learn a skill

SUMMARY AND CONCLUSION

Reassimilates all of the information that was included in the content of the lesson; ties all of the information together in a comprehensive overview; purpose is to reinforce learning by summarizing the major components of the lesson

INTERACTION ITEMS

Questions intended to stimulate and encourage student interaction during the unit presentation; allow the instructor to build on students' previous learning, as well as dispel any misconceptions

CLASSROOM/LABORATORY ACTIVITIES

Activities designed to reinforce learning; allow students to interact with the new information or materials contained in the lesson

EVALUATION ITEMS

An exercise designed to measure the accomplishment of the objectives; may be a written evaluation or skills demonstration

The module becomes individualized when the instructor includes his/her program's philosophy and unique teaching style. Additional content may be added to increase the scope of the unit if it better serves individual programs.

The dedication with which this course was developed reflects the sincere desire of the Health Occupations Education community to provide a solid basic educational foundation for beginning students in health careers.

DENTAL AIDE

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	2. Members of the dental health team
	3. Career opportunities and specialty areas
INFECTION CONTROL	
	4. Techniques for infection control
	5. Pathogenic concerns in the dental office
6. Handwashing technique	
	7. Instrument preparation and disinfection
BASIC ANATOMY OF THE ORAL CAVITY	
	8. Arches, planes and quadrants
	9. Names, types, and functions of teeth
	10. Primary dentition
	11. Surfaces of teeth
	12. Notation systems
	13. Anatomical parts and tissues of teeth
	14. Factors influencing dental health

DEMONSTRATION	INFORMATION
BASIC OFFICE PROCEDURES	
	15. Telephone communication
	16. Communicating with patients and visitors
	17. Maintaining the reception area, restrooms, and filing system
OPERATIVE EQUIPMENT AND PROCEDURES	
	18. Dental operatory equipment
19. Seating and dismissal of a dental patient	
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	21. Dental instruments
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23. Manual processing (developing) radiographs	
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25. Mounting radiographs	
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	26. Identification of basic lab equipment
	27. Laboratory safety and cleanup
	28. Alginate impressions

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

SCOPE OF UNIT:

This unit covers the history of dentistry and dental auxiliaries in the United States as well as an overview of the basic dental health team members, job opportunities, and educational requirements in the dental field.

INFORMATION TOPIC: I-1 OR DEMONSTRATION:

HISTORY OF DENTISTRY
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Identify the founder of modern dentistry.
2. Identify the first American dentist.
3. Identify the first woman dentist to practice in the United States.
4. Complete statements describing five major events that led to the advancement of modern dentistry in the United States.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Pioneers in Dentistry
2. TM 2: Important Dates Contributing to the Growth of Dentistry

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

It is important for anyone interested in working in a health profession such as dentistry to be knowledgeable of its historical foundations. We will discuss the history of dentistry in this lesson by identifying the founder and those individuals who helped this health profession advance to its current level of technology.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

OUTLINE: (Key Points)

I. Pioneers in Dentistry (TM 1)

   A. Pierre Fauchard - (1678-1761) recognized as the founder of modern dentistry

   B. John Baker, M.D. - one of the first competent dentists to practice in United States in 1752 (II-1)

   C. Isaac Greenwood, Sr. - considered to be the first male native-born American dentist

   D. Lucy B. Hobbs Taylor

      a. First woman graduate in dentistry

      b. Received her diploma in 1866 from the Ohio College of Dental Surgery in Cincinnati

II. Development of Dentistry in the United States (TM 2)

   A. 1840 - the first dental school was founded; referred to as the Baltimore College of Dentistry

   B. 1844 - Horace Wells, a dentist in Hartford, Connecticut, first used nitrous oxide to relieve pain during tooth extraction

   C. 1857 - significant scientific standards were developed in dentistry by G.V. Black, "the grand old man of dentistry" (II-2)

   D. 1885 - Dr. C. Edmund Kells is credited with hiring the first female dental assistant, referred to as "Lady in Attendance" (II-3)

   E. 1895 - Wilhelm Konrad Roentgen applied x-radiation to dentistry, which was a significant advancement in early detection of dental conditions

III. Summary and Conclusion

   A. Pioneers in dentistry

   B. Development of dentistry in the United States

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

INTERACTION ITEMS:

1. If John Baker is considered the first competent dentist to practice dentistry, who do you think performed dental services before him?

2. Why is it important to have scientific standards in dentistry?

3. What do you think was meant by the term, "Lady in Attendance?"

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

EVALUATION ITEMS:

For each of the following, select the one, best answer and place the corresponding letter in the blank.

____ 1. The person considered to be the founder of modern dentistry is:

a. Lucy Hobbs
b. Isaac Greenwood, Sr.
c. Pierre Fauchard
d. Edmund Kells

____ 2. Who was the first woman dentist in the United States?

a. Mary Wilson
b. Barbara Stevens
c. Sara Baker
d. Lucy Hobbs

____ 3. The person considered to the first American-born male dentist is:

a. Isaac Greenwood, Sr.
b. Pierre Fauchard
c. John Baker
d. Wilhelm Konrad Roentgen

For each of the following, complete the statement or answer the question by filling in the blanks.

4. The first dental school was founded in __________ (year) and referred to as the _______________ ______________________ of Dentistry.

5. Who developed significant scientific standards in dentistry?
____

6. In what year and by whom was the first female dental assistant or "Lady in Attendance" hired?

a. ____________________ (year)

b. ____________________ (dentist)

7. In 1895 what significant technology did Wilhelm Konrad Roentgen apply to dentistry?________________________________

____

8. In 1844 one of the first dental anesthetics was used in dentistry by Horace Wells, what was it called?______________

____

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

ANSWERS TO EVALUATION ITEMS:

1. c
2. d
3. a
4. 1840, Baltimore College
5. G.V. Black
6. a. 1885
   b. Dr. C. Edmund Kells
7. x-radiation
8. Nitrous oxide

Pioneers in Dentistry

Pierre Fauchard (1678-1761)
Founder of Modern Dentistry

John Baker, MD
First competent dentist to practice in the United States in 1752

Isaac Greenwood Sr.
First native-born American dentist

Lucy B. Hobbs Taylor
First woman dentist in United States, graduated in 1866

Important Dates Contributing to the Growth of Dentistry

1840 - First dental school, Baltimore College of Dentistry, established

1844 - Horace Wells used the gas, nitrous oxide, for relief of pain during tooth extractions

1857 - G.V. Black, "The Grand Old Man of Dentistry," established significant scientific standards in dentistry

1885 - D.C. Edmund Kells hired the first female dental assistant, referred to as "Lady in Attendance"

1895 - Conrad Roentgen applied the use of x-radiation to dentistry

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

SCOPE OF UNIT:

This unit covers the history of dentistry and dental auxiliaries in the United States as well as an overview of the basic dental health team members, job opportunities, and educational requirements in the dental field.

INFORMATION TOPIC: I-2 OR DEMONSTRATION:

MEMBERS OF THE BASIC DENTAL HEALTH TEAM
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Identify the four basic dental health team members and list one responsibility associated with each.
2. Identify the dental health team member associated with a given educational requirement.
3. Identify the dental health team member associated with a given licensure requirement.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Seals of the Dental Health Team

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

Dentistry is a very demanding profession in terms of the knowledge and skills required. There are several individuals who make up a successful dental team. In this lesson we will discuss some of these people and how they all work together on the basic dental health care team toward the goal of providing the best possible dental care for their patients.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

OUTLINE: (Key Points)

I. Dentist - DDS (Doctor of Dental Surgery)

   A. Education - undergraduate degree in science and three or four years of dental school in a program approved by the Commission on Dental Accreditation of the American Dental Association

   B. Responsibilities - diagnosing and implementing total patient care

   C. Licensure

      1. Must pass both a written and practical examination in the state in which he/she wishes to practice.

      2. Governed by the dental practice act of that state

   D. There are legal requirements in all states regarding education and licensure.

II. Dental Hygienist - RDH (Registered Dental Hygienist)

   A. Education

      1. Minimum requirement is two years of college study in an accredited dental hygiene program (II-1)

      2. Undergraduate and graduate degree programs are also available.

   B. Responsibilities

      1. Scale and polish the teeth (prophylaxis)

      2. Record case histories and chart conditions of the oral cavity (II-2)

      3. Expose, process, and evaluate radiographs

      4. Polish restorations

      5. Apply topical fluoride treatments

6. Instruct the patient in preventive dentistry and nutrition

7. Perform tasks of the chairside assistant

C. Licensure - must pass both written and practical state or regional examinations in order to be licensed by the state in which he/she plans to practice

D. There are legal requirements in all states regarding education and licensure.

III. Dental Assistant Auxiliary

A. Education

1. Apprenticeship - on-the-job training

2. Proprietary school - 6 weeks to a year in length

3. Programs accredited by the American Dental Association - minimum 9 months; full-time

B. Responsibilities - may work as a generalist in serving all areas of the dental practice or may perform more specialized duties

NOTE: The list of duties of the various specialty areas does not include all duties or limit the duties to just that one individual.

1. Assist in chairside procedures

a. Seat and dismiss patients

b. Prepare patients for treatment

Examples: expose, develop and mount radiographs; chart clinical finding as dictated by the dentist; prepare treatment room; clean and sterilize equipment

c. Assist dentist in operative procedures

d. Provide instruction in dental health education

Examples: oral hygiene practices, nutritional counseling

e. Perform laboratory duties
Examples: take impressions, pour models, trim models

2. Assist in secretarial or administrative procedures

    a. Schedule appointments

    b. Answer telephone

    c. Maintain patient records

    d. Arrange methods of payment

    e. Maintain accounts receivable and accounts payable

3. Expanded function dental auxiliary

    a. Place, carve, and finish restorations

    b. Apply pit and fissure sealants

    c. Polish coronal surfaces of teeth

    d. Polish amalgam restorations

    e. Monitor the administration of nitrous oxide analgesia or sedation by a dentist

    f. Place and remove sedative or temporary restorations and crowns

NOTE: Although assistants may be trained to perform all of these functions and many more, they may legally perform only those functions that have been officially delegated to auxiliaries under the dental practice act of their state. All dental team members have legal limitations.

C. Possible licensures for dental assistants

1. Upon satisfactory completion of an ADA-accredited program, or having met the work experience requirements, and holding a current CPR certification, a dental auxiliary is eligible to sit for a certification examination. Upon passing the exam they may carry the title Certified Dental Assistant, CDA. This is not a required certificate.

2. Some states require the Expanded Function Dental Auxiliary (EFDA) to pass a formal examination to become licensed or registered.

3. Licensure carries with it the prestige of knowledge and the ability to apply it properly; however, it is not a degree nor does it hold any

legal status except in those states recognizing it under their practice act.

IV. Dental Aide

A. Education

1. Completion of one semester of Health Services Assistant course

2. Completion of a dental aide course or on-the-job training in a dentist's office

B. Responsibilities

1. Assist the auxiliary in carrying out treatment

2. Sterilize and disinfect equipment

3. Seat and dismiss patients

4. Process radiographs

5. Change x-ray solutions

6. Pour study models

7. Basic secretarial procedures

C. Licensure - no licensure is available or required at this time for the dental aide, however all dental team members have legal limitations

V. Summary and Conclusion

A. Dentist

B. Dental hygienist

C. Dental assistant

D. Dental aide

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

INTERACTION ITEMS:

1. Which dental worker must have attended an accredited two-year program?
2. Do you remember when you had your last dental checkup who cleaned your teeth, and what he/she did?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Visit a local dental office and observe the various members of the dental health team.

LESSON PLAN: __2__

COURSE TITLE: DENTAL AIDE

UNIT __I__: HISTORICAL FOUNDATION AND OVERVIEW

EVALUATION ITEMS:

1. Identify the four basic dental health team members and list one responsibility associated with each.

   a.

   b.

   c.

   d.

2. Identify the dental health team member associated with the following educational requirements by filling in the blanks.

   a. Completion of one semester of Health Services Assistant course; completion of a course such as this or on-the-job training in a dentist's office:____________________

   b. Proprietary school; apprenticeship; program accredited by the ADA:____________________

   c. Undergraduate degree in science and 3-4 years of dental school in a program approved by the ADA Commission of Dental Accreditation:____________________

   d. At least two years of study in an accredited college dental hygiene program or undergraduate or graduate degree program:____________________

3. Identify the dental health team member associated with the following licensure requirements by filling in the blanks.

   a. Must pass both written and practical state or regional examination in order to be licensed by the state in which he/she plans to practice:____________________

      ____

b. No licensure is available or required at this time:

____

c. Optional certification is based on satisfactory completion of an ADA accredited program or meeting work experience requirements along with CPR certification and passing a certification exam. Some states require an individual to pass a formal exam to become licensed or registered:______________________________

d. Must pass both a written and practical examination in the state in which he/she wishes to practice; governed by the dental practice act of that state:____________

____

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

ANSWERS TO EVALUATION ITEMS:

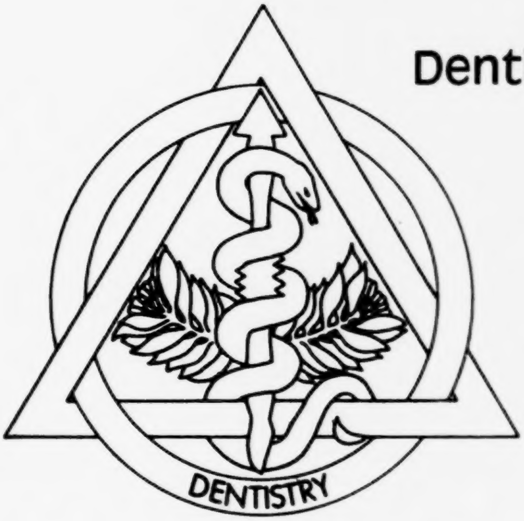
1. a. Dentist - responsible for diagnosing and implementing total patient care
   b. Dental hygienist - student may list any one of the following responsibilities:
      1. Scale and polish the teeth (prophylaxis)
      2. Record case histories and chart conditions of the oral cavity
      3. Expose, process, and evaluate radiographs
      4. Polish restorations
      5. Apply topical fluoride treatments
      6. Instruct the patient in preventive dentistry and nutrition
      7. Perform tasks of the chairside assistant
   c. Dental assistant - student may list any one of the following responsibilities:
      A. Assist in chairside procedures
         1. Seat and dismiss patients
         2. Prepare patients for treatment
            Examples: expose, develop, and mount radiographs; chart clinical findings as dictated by the dentist; prepare treatment room; clean and sterilize equipment
         3. Assist dentist in operative procedures
         4. Provide instruction in dental health education
            Examples: oral hygiene practices, nutritional counseling
         5. Perform laboratory duties
            Examples: take impressions, pour models, trim models
      B. Assist in secretarial or administrative procedures
         1. Schedule appointments
         2. Answer telephone
         3. Maintain patient records
         4. Arrange methods of payment
         5. Maintain accounts receivable and accounts payable
      C. Expanded function dental auxiliary
         1. Place, carve, and finish restorations
         2. Apply pit and fissure sealants
         3. Polish coronal surfaces of teeth
         4. Polish amalgam restorations

        5. Monitor the administration of nitrous oxide analgesia or sedation
        6. Place and remove sedative or temporary restorations and crowns
    d. Dental aide - student may list any one of the following responsibilities:
        1. Assist the other dental health team members in carrying out treatment
        2. Sterilize and disinfect equipment
        3. Seat and dismiss patients
        4. Process radiographs
        5. Change x-ray solutions
        6. Pour up study models
        7. Basic secretarial procedures

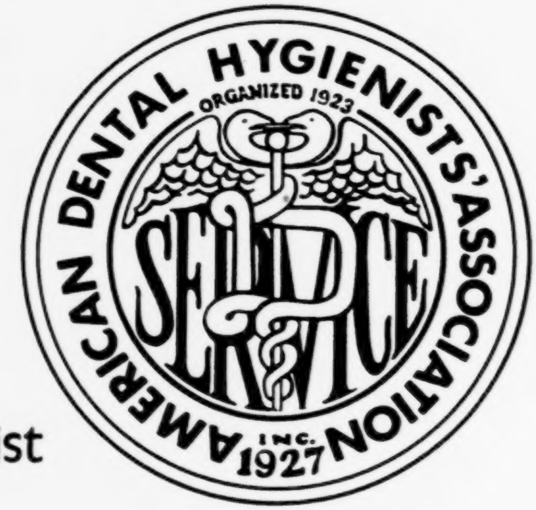
2. a. Dental aide
    b. Dental assistant auxiliary
    c. Dentist
    d. Dental hygienist

3. a. Dental hygienist
    b. Dental aide
    c. Dental assistant auxiliary
    d. Dentist

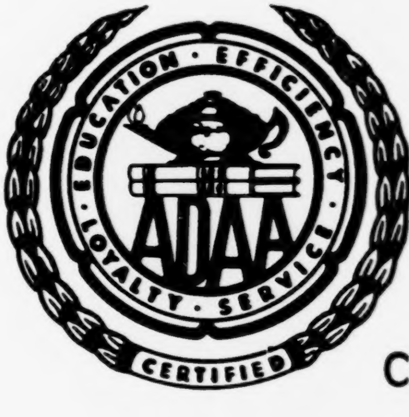
Seals of the Dental Health Team



Dentistry


AMERICAN DENTAL HYGIENISTS' ASSOCIATION
ORGANIZED 1923
SERVICE
INC. 1927

Dental Hygienist


EDUCATION · EFFICIENCY · LOYALTY · SERVICE
ADAA
CERTIFIED

Certified Dental Assistant

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

SCOPE OF UNIT:

This unit covers the history of dentistry and dental auxiliaries in the United States as well as an overview of the dental health team members, job opportunities, and educational requirements in the dental field.

INFORMATION TOPIC: I-3 OR DEMONSTRATION:

CAREER OPPORTUNITIES AND SPECIALTY AREAS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List four sources of job opportunities for dental personnel.
2. Match specialized fields of dentistry to the correct descriptions.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Schwarzrock, Shirley Pratt and James R. Jinson. Effective Dental Assisting. 5th ed. Dubuque, IA: William C. Brown Company, 1978.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

Today we will discuss several different types of patient care settings in which the dental personnel might be employed. Dental specialty areas will also be discussed. This should give you a better understanding of the various types of employment.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

OUTLINE: (Key Points)

I. Job Opportunities in the Field of Dentistry

   A. Private practice or solo practice

   B. Group practice

   C. Specialty practice

   D. Hospital dentistry (II-1)

   E. Armed forces

   F. Dental schools

   G. Dental educator

II. Specialty Fields of Dentistry (II-2)

   A. Dental public health - deals with health problems through education, prevention, and correction on a community, state, or national level

   B. Endodontics - deals with diagnosis and treatment of diseases of pulp and periapical tissue

   C. Orthodontics - deals with causes, prevention, treatment, and correction of irregularities or malocclusion of teeth and arches

   D. Oral pathology - deals with treatment of conditions causing or resulting from morbid anatomic or functional changes in the structure of the mouth

   E. Oral surgery - deals with the extraction of teeth, including diagnosis and surgical intervention in diseases, defects, and injuries of the teeth and jaws and any surgical facial structures

   F. Pedodontics (pediatric dentistry) - deals with the oral treatment of children

NOTE: This is a program of complete oral health care for children up to 12 years of age.

G. Periodontics - deals with the diagnosis, prevention, and treatment of diseases of the teeth and supporting tissue

Examples: periodontal ligament, gingiva, alveolar bone and cementum

H. Prosthodontics - deals with the replacement of lost or absent natural teeth with artificial substitutes

Examples: partials, dentures, bridges, crowns

III. Summary and Conclusion

A. Job opportunities in the field of dentistry

B. Specialty fields of dentistry

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT I : HISTORICAL FOUNDATION AND OVERVIEW

INTERACTION ITEMS:

1. What type of dental practice have you been to?

2. To what specialty would you send someone who needed:

   A. their teeth straightened?

   B. a root canal?

   C. routine examination of a small child?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Visit any of the dental offices in your community.

2. List the dental specialties in your community.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT I: HISTORICAL FOUNDATION AND OVERVIEW

EVALUATION ITEMS:

1. List four sources of job opportunities for dental personnel.

   a.

   b.

   c.

   d.

Match the following specialized dentistry fields to the correct descriptions by writing the letter in the blank.

____ 2. Pedodontics

____ 3. Endodontics

____ 4. Prosthodontics

____ 5. Oral surgery

____ 6. Periodontics

____ 7. Dental public health

____ 8. Orthodontics

____ 9. Oral pathology

a. Deals with health problems through education, prevention, and correction on a community, state, or national level

b. Deals with diagnosis and treatment of diseases of pulp and periapical tissue

c. Deals with causes, prevention, treatment, and correction of irregularities or malocclusion of teeth and arches

d. Deals with treatment of conditions causing or resulting from morbid anatomic of functional changes in the structure of the mouth

e. Deals with the extraction of teeth, including diagnosis and surgical intervention in diseases, defects, and injuries of the teeth and jaw, and any surgical facial structures

f. Deals with the oral treatment of children. This is a program of complete oral health care for children up to 12 years of age.

(continued)

g. Deals with the diagnosis, prevention, and treatment of diseases of the teeth and supporting tissues; examples: periodontal ligament, gingiva, alveolar bone and cementum.

h. Deals with the replacement of lost or absent natural teeth with artificial substitutes; examples: partials, dentures, bridges, crowns

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT I: HISTORICAL FOUNDATION AND OVERVIEW

ANSWERS TO EVALUATION ITEMS:

1. The student may list any four of the following:
    a. Private practice or solo practice
    b. Group practice
    c. Specialty practice
    d. Hospital dentistry
    e. Armed forces
    f. Dental schools
    g. Dental educator
2. f.
3. b.
4. h.
5. e.
6. g.
7. a.
8. c.
9. d.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

SCOPE OF UNIT:

This unit addresses the basic techniques of infection control for the dental office and for personnel. Information and demonstration lessons cover the areas of disease transmission control, handwashing, and instrument preparation and disinfection.

INFORMATION TOPIC: II-1 OR DEMONSTRATION:

TECHNIQUES FOR INFECTION CONTROL
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List four sources of cross contamination.
2. Identify four methods by which microorganisms are transmitted.
3. Identify the two most common methods of transmission of infection in a dental office.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Sources of Cross Contamination
2. TM 2: Transmission of Microorganisms
3. TM 3: Most Common Methods of Transmission of Infection in the Dental Office

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting, 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

It is important that members of the dental health team have a basic understanding of infection control so that they may intelligently and conscientiously carry out the steps necessary to control contamination and to prevent the spread of disease throughout the dental office.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

OUTLINE: (Key Points)

- I. Sources of Cross Contamination (TM 1)
    - A. Infected persons
    - B. Insects and other animals
    - C. Contaminated items (dental instruments or equipment) (II-1)
    - D. Contaminated food and water
- II. Methods of Transmitting Microorganisms (TM 2)
    - A. Contact route
        - 1. Direct physical contact
        - 2. Indirect physical contact
    - B. Vehicle route
        - 1. Food
        - 2. Water
        - 3. Blood
        - 4. Saliva (II-2)
    - C. Airborne route
        - 1. Dust
        - 2. Droplet from a cough or sneeze
        - 3. Spray from dental handpiece
    - D. Vector route
        - 1. Animals
        - 2. Insects

III. Most Common Methods of Transmission of Infection in the Dental Office (TM 3)

A. Infected persons

1. Direct physical contact

2. Vehicle route

a. Blood

b. Saliva

B. Contaminated articles

1. Dental instruments

2. Dental equipment

IV. Summary and Conclusion

A. Sources of cross contamination

B. Methods of transmitting microorganisms

C. Most common methods of transmission of infection in the dental office

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

INTERACTION ITEMS:

1. What are some items in a dental office that would become contaminated by patient exposure?

2. How could we as dental workers protect ourselves from blood and saliva?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

EVALUATION ITEMS:

1. List four sources of cross contamination.

   a.

   b.

   c.

   d.

2. List four methods by which microorganisms are transmitted.

   a.

   b.

   c.

   d.

3. List two of the most common methods of infection transmission in the dental office.

   a.

   b.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

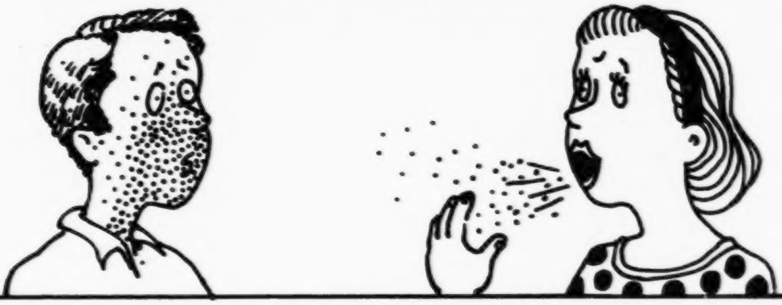
UNIT II : INFECTION CONTROL

ANSWERS TO EVALUATION ITEMS:

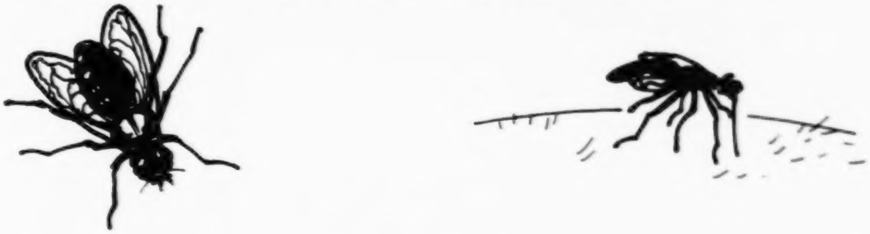
1. a. Contact route
   b. Vehicle route
   c. Airborne route
   d. Vector-borne route
2. a. Infected persons
   b. Insects and other animals
   c. Contaminated food and water
   d. Contaminated items (dental instruments or equipment)
3. a. Infected persons
   b. Contaminated articles

Sources of Cross Contamination

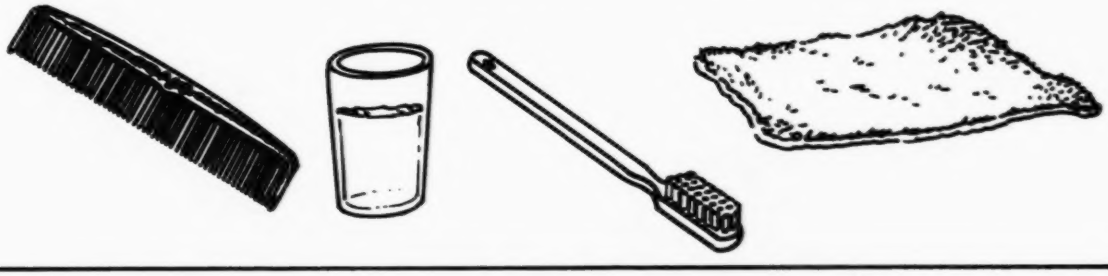
Infected Persons



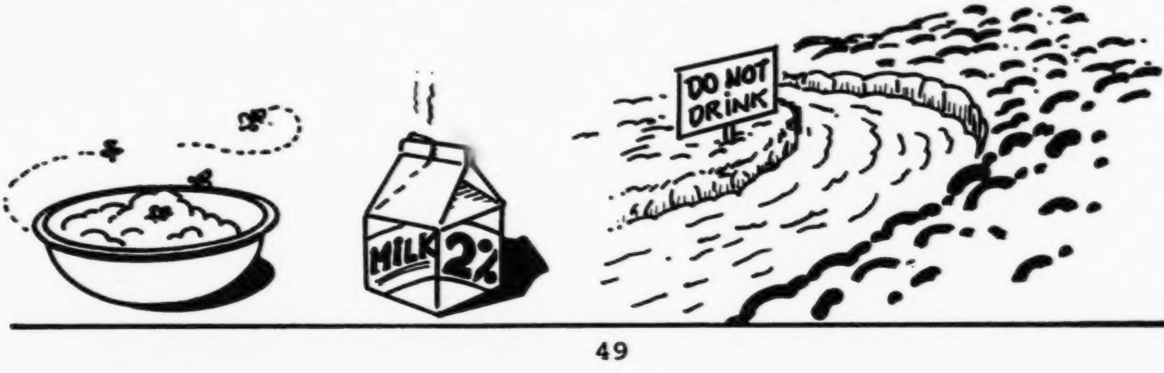
Insects and Other Animals



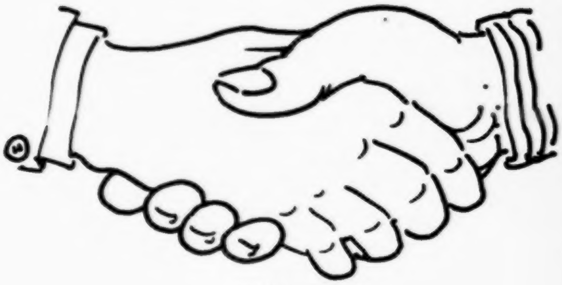
Contaminated Articles



Contaminated Food and Water


DO NOT DRINK
MILK
2%

Methods of Transmission of Microorganisms



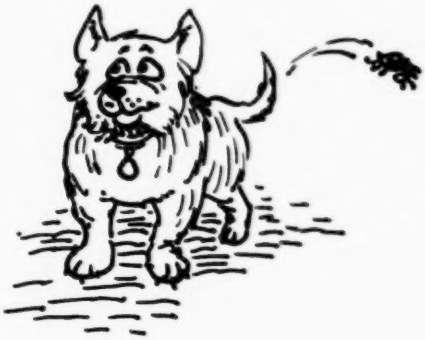
Direct

Contact Route
- Direct Physical Contact
- Indirect Physical Contact

Vehicle Route
- Food
- Water
- Blood
- Saliva

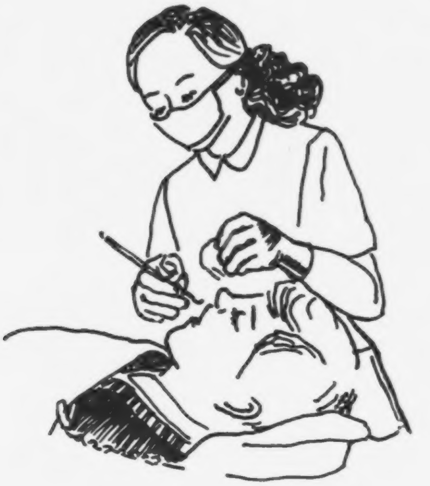
Airborne Route
- Dust
- Droplet from a Cough or Sneeze
- Spray from Dental Handpiece

Vector-borne Route
- Animals (dogs)
- Insects (mosquito, fly)

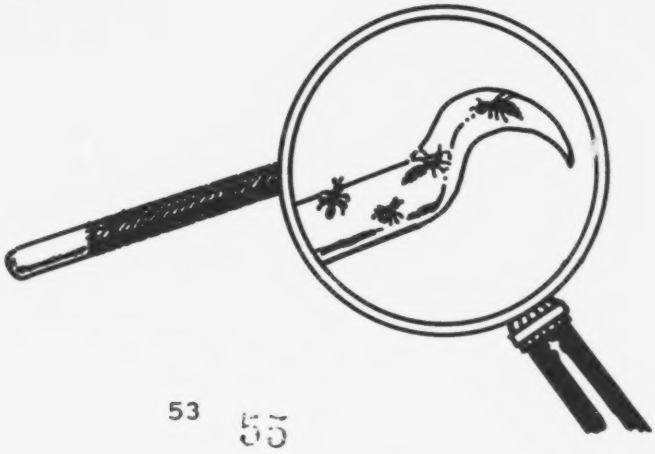


Most Common Methods of Transmission of Infection in the Dental Office

A. INFECTED PERSONS
- Direct Physical Contact Route
- Vehicle Route
  - -Blood
  - -Saliva



B. CONTAMINATED ARTICLES
- Dental Instruments
- Dental Equipment



LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

SCOPE OF UNIT:

This unit addresses the basic techniques of infection control for the dental office and for personnel. Information and demonstration lessons cover the areas of disease transmission control, handwashing, and instrument preparation and disinfection.

INFORMATION TOPIC: II-2 OR DEMONSTRATION:

PATHOGENIC CONCERNS IN A DENTAL OFFICE
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List five dangerous pathogenic microorganisms that may be transmitted within a dental office.
2. Identify five methods of controlling transmittal of pathogenic microorganisms in a dental office.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Pathogenic Microorganisms
2. TM 2: Methods of Controlling Transmission of Pathogenic Microorganisms

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting, 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

From the previous lesson we learned how microorganisms are transmitted. Today we need to concern ourselves with the major microorganisms that are potentially dangerous to us as dental auxiliaries, and learn how we can control cross contamination.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

OUTLINE: (Key Points)

I. Potentially Dangerous Pathogenic Microorganisms (TM 1)

- A. Serum hepatitis (hepatitis B)
    - 1. Inflammation of the liver characterized by
        - a. Fever
        - b. Nausea
        - c. Vomiting
        - d. Jaundice
        - e. Necrosis of scattered liver cells
    - 2. Commonly thought to be transmitted through instruments contaminated with blood, although the virus is found in all body fluids, including saliva of an infected individual
- B. Acquired immune deficiency syndrome (AIDS)
    - 1. Disease that compromises the competency of the immune system, characterized by persistent opportunistic infections
    - 2. Transmissible through blood and semen
- C. Tuberculosis (TB)
    - 1. Disease caused by the presence of mycobacterium tuberculosis usually in the lungs, producing swelling which results in difficulty in breathing
    - 2. General symptoms
        - a. Infection
        - b. Fever
        - c. Sweats

D. Syphilis

1. Acute and chronic infectious venereal disease transmitted by direct contact, usually through sexual intercourse

2. Symptoms

a. Development of a chancre

b. Dermatologic eruption

c. Slight fever

d. Eventual formation of gummas, cellular infiltration and cardiovascular lesions

E. Herpes simplex virus (HSV2)

1. Variety of infections caused by simplex virus, marked by the eruption of vesicle lesions (blisters) on the genitalia

2. Tingling, itching and burning sensation when urinating

NOTE: Syphilis and herpes simplex virus (HSV2) are venereal diseases that may be contracted through the oral cavity

II. Methods of Controlling Transmittal of Pathogenic Microorganisms (TM 2)

A. Wear a clean uniform each day.

B. Keep hair away from the field of treatment by keeping hair style short or neatly tied back.

C. Use of disposable face mask, protective glasses and gloves by operator and dental assistant for each procedure (II-1)

D. Thorough instrument cleaning, sterilization, and storage

E. All objects touched during patient treatment should be disinfected after each patient, as well as before the work day begins and at the end of the work day.

F. Flush water and vacuum (suction) lines thoroughly at beginning and end of each day and before each patient treatment.

G. Thorough scrubbing of hands with surgical soap

   H. Use of disposable products whenever possible (II-2)

III. Summary and Conclusion

   A. Dangerous microorganisms

   B. Methods of controlling transmission of pathogenic microorganisms

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT II: INFECTION CONTROL

INTERACTION ITEMS:

1. How would protective glasses, mask, and/or gloves protect the operator?

2. What are some examples of disposable items you might use with a dental procedure?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

EVALUATION ITEMS:

1. List five potentially dangerous pathogenic microorganisms that may be transmitted within the dental office.

   a.

   b.

   c.

   d.

   e.

2. List five methods of controlling transmittal of pathogenic microorganisms in the dental office.

   a.

   b.

   c.

   d.

   e.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

ANSWERS TO EVALUATION ITEMS:

1. a. Serum hepatitis virus (hepatitis B)
   b. Acquired immune deficiency syndrome (AIDS)
   c. Tuberculosis (TB)
   d. Syphilis
   e. Herpes simplex virus (HSV2)

2. The student may list any five of the following:
   a. Wear a clean uniform each day.
   b. Keep hair away from the field of treatment by keeping hair style short or neatly tied back.
   c. Use of disposable face mask, protective glasses and gloves by operator and dental assistant for each procedure
   d. Thorough instrument cleaning, sterilization and storage
   e. All objects touched or handled during patient treatment should be disinfected after each patient, as well as before the work day begins and at the end of the work day.
   f. Flush water and vacuum (suction) lined thoroughly at beginning and end of each day and before each patient treatment.
   g. Thorough scrubbing of hands with surgical soap
   h. Use of disposable products whenever possible

Pathogenic Microorganisms

1. Serum hepatitis (hepatitis B)
2. Acquired immune deficiency syndrome (AIDS)
3. Tuberculosis (TB)
4. Syphilis
5. Herpes simplex virus (HSV2)

Methods of Controlling Transmission of Pathogenic Microorganisms

1. Wear a clean uniform each day.
2. Keep hair away from field of treatment.
3. Use of disposable face mask, protective glasses, and gloves by operator when indicated
4. Thorough instrument cleaning, sterilization, and storage
5. All objects touched during patient treatment should be disinfected after each patient.
6. Thorough scrubbing of hands with surgical soap
7. Use of disposable products whenever possible

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

SCOPE OF UNIT:

This unit addresses the basic techniques of infection control for the dental office and for personnel. Information and demonstration lessons cover the areas of disease transmission control, handwashing, and instrument preparation and disinfection.

INFORMATION TOPIC: OR DEMONSTRATION: II-3

HANDWASHING TECHNIQUE
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Wash hands according to steps of procedure.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Sink with hot and cold water supply
2. Soap or liquid washing agent (iodophor solution)
3. Paper towels

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Wilkins, Ester. Clinical Practice of the Dental Hygienist. 3rd ed. Philadelphia: Lea and Lebiger Co., 1971.

Prewitt, Michael W. Respiratory Therapy Aide. Columbia, MO: Instructional Materials Laboratory - University of Missouri, 1987.

INTRODUCTION:

Hands, through direct contact with a patient's mouth, become contaminated and therefore potential sources of cross contamination. Washing with a bactericidal agent to reduce the number of microorganisms on your hands can eliminate opportunities for cross contamination and the spread of microorganisms.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

STEPS OF PROCEDURE:

1. Remove all jewelry.
2. Turn water on, adjust to a moderately hot temperature, and let run throughout the procedure.
3. Wet hands and lower arms with water and apply soap or liquid washing agent.
4. Scrub (two minutes) all surfaces of the hands and lower arms including: palms and back of hands, fingers and surfaces between them, and wrists (three to four inches above hands).
5. Rinse well under running water, beginning at the fingertips and rinsing toward the wrist.
6. Dry hands thoroughly with paper towels.
7. If the sink does not have foot controls, turn the faucet off using a dry paper towel.

   CAUTION: Be careful not to touch the sink with hands.
8. Dispose of the towels in the trash. Be careful not to touch the container.

SUMMARY AND CONCLUSION:

1. Discuss interaction items.
2. Review steps of procedure.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

INTERACTION ITEMS:

1. Why is the water running throughout the procedure?
2. Why are the fingertips rinsed first?
3. How are you supposed to dry your hands?
4. Why is the water turned off with a paper towel?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Have students practice washing their hands using this technique.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

EVALUATION ITEMS:

NAME OF STUDENT:

HANDWASHING TECHNIQUE

EQUIPMENT:

1. Sink with hot and cold water supply
2. Soap or liquid washing agent (iodophor solution)
3. Paper towels

DID THE STUDENT	YES	NO
1. Remove all jewelry.		
2. Turn on water, adjust to a moderately hot temperature, and let run throughout the procedure.		
3. Wash hands and lower arms with water and apply soap or liquid washing agent.		
4. Scrub all surfaces of the hands and lower arms.		
5. Rinse well under running water.		
6. Dry hands thoroughly with paper towels.		
7. Turn off the faucet.		
8. Dispose of the towels.		

The student has satisfactorily completed the procedure "HANDWASHING TECHNIQUE" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

SCOPE OF UNIT:

This unit addresses the basic techniques of infection control for the dental office and for personnel. Information and demonstration lessons cover the areas of disease transmission control, handwashing, and instrument preparation and disinfection.

INFORMATION TOPIC: II-4 OR DEMONSTRATION:

INSTRUMENT PREPARATION AND DISINFECTION
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List the three steps in preparation of instruments prior to disinfection.
2. Define disinfection.
3. List three chemical disinfecting agents.
4. List eight surfaces to be wiped down after each patient.
5. State the usual length of time that an item should be immersed/exposed to a disinfecting agent.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Preparation of Instruments
2. TM 2: Ultrasonic Instrument Cleaning
3. TM 3: Surfaces to be Wiped After Each Patient Treatment

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Ehrlich, Ann. Fundamentals II: Local Anesthesia, Sterilization and Oral Surgery. Champaign, IL: The Colwell Company, 1984.

Fong, Elizabeth and Elvira Terris. Microbiology for Health Careers. 4th ed. Albany, NY: Delmar Publishers, Inc., 1987.

INTRODUCTION:

As we learned previously, microorganisms can cause various diseases. We must know how to destroy microorganisms to prevent cross contamination. Disinfection is a process by which microbes are destroyed. However, this does not include the destruction of all viruses or spores, therefore, equipment should be disinfected only if it cannot be sterilized.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

OUTLINE: (Key Points)

I. Instrument Preparation

   A. Wear heavier (household rubber) gloves when scrubbing instruments.

   B. Thoroughly scrub all instruments with soap and a stiff-bristle brush. The presence of blood, tissue, or other materials presents a barrier and may prevent proper sterilization or disinfection. (TM 1)

   C. Rinse thoroughly under running water until all soap is removed. (II-1)

   D. Drain or dry. Instruments should be thoroughly dried to prevent dilution or contamination of the disinfecting solution.

   E. Ultrasonic instrument cleaning (TM 2)

      1. Mechanical means of cleaning dental instruments

      2. Faster and more effective than scrubbing by hand because it can clean out hinges and small grooves which cannot be reached by ordinary scrubbing methods

      3. Does not replace scrubbing

II. Disinfection

   A. Definition of disinfection - a heat or chemical process by which microbial life is destroyed; does not include destruction of all viruses or bacterial spores

   B. Disinfectants are used for many purposes:

      1. Instrument disinfection

      2. Disinfection of large items such as counter tops, x-ray machine, dental chair, etc.

      3, Plastic items that cannot withstand the heat or fit into a conventional heat sterilizer

C. Recommended types of chemical disinfecting agents

1. Glutaraldehyde - one of the most effective disinfecting agents available

   CAUTION: Will cause orange staining of fingers with frequent contact

2. Iodophor solution - composed of one part iodine scrub and 20 parts isopropyl alcohol

   CAUTION: Will stain clothing

3. Sodium hypochlorite (household bleach) - is convenient and works well as a disinfectant and deodorant; composed of one part sodium hypochlorite to 10 parts water

   CAUTION: Will bleach clothing on contact

tt III. Disinfecting with Wiping Agents

A. Wipe-down procedure must be a standard part of the clean up following each patient. Every surface touched during the treatment must be carefully wiped down with a disinfecting agent.

B. Surfaces to be wiped down after each patient treatment (TM 3)

1. Drawer pulls
2. Operator's cart and its components (II-2)
3. Dental chair (arms, headrest and switches)
4. Light handles
5. Suction hoses
6. Assistant's cart and its components (II-3)
7. X-ray machine (if used)
8. Tray or bracket table
9. All counter tops
10. Anything that was touched

C. Time of exposure

1. Disinfectants do not destroy all microorganisms instantly on contact. Time of exposure of a

74

surface to disinfecting agent depends upon the type of material to be disinfected, the number and type of microorganisms present, and the concentration of the disinfecting solution.

2. For most solutions, items should be immersed for at least 10 minutes.

3. To disinfect handpieces, air/water syringes, etc., wrap sponge tightly around object and allow it to remain wrapped for 10 minutes to disinfect.

IV. Summary and Conclusion

A. Instrument preparation

B. Disinfection

C. Disinfecting with wiping agents

CAUTION: The ADA Council on Dental Materials, Instruments and Equipment recommends wearing protective gloves (rubber work gloves) while handling contaminated instruments.

Glutaraldehyde and iodophor solutions may discolor pastel surfaces of units and cause staining of the hands.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

INTERACTION ITEMS:

1. What type of soap would be best to use to scrub instruments?
2. What are some of the components to be wiped down on the operator's cart?
3. What are some of the components that should be wiped down on the assistant's cart?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

EVALUATION ITEMS:

1. List the three steps in preparation of instruments prior to disinfection.

   a.

   b.

   c.

2. Disinfection is defined as:

3. Three of the most common disinfecting agents include:

   a.

   b.

   c.

4. List five surfaces that should be wiped down with a disinfecting agent after each patient.

   a.

   b.

   c.

   d.

   e.

5. State the usual length of time that an item is immersed or exposed to a disinfecting agent.

LESSON PLAN: 4

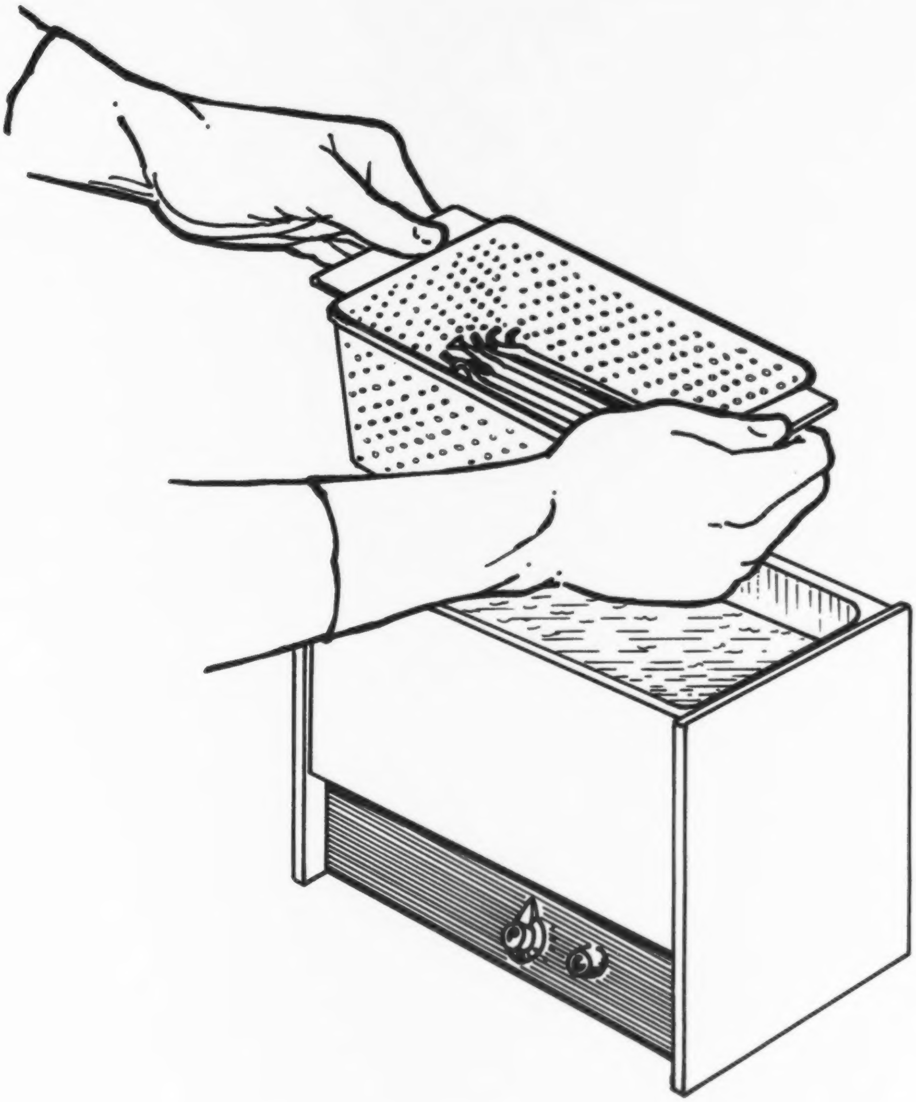
COURSE TITLE: DENTAL AIDE

UNIT II : INFECTION CONTROL

ANSWERS TO EVALUATION ITEMS:

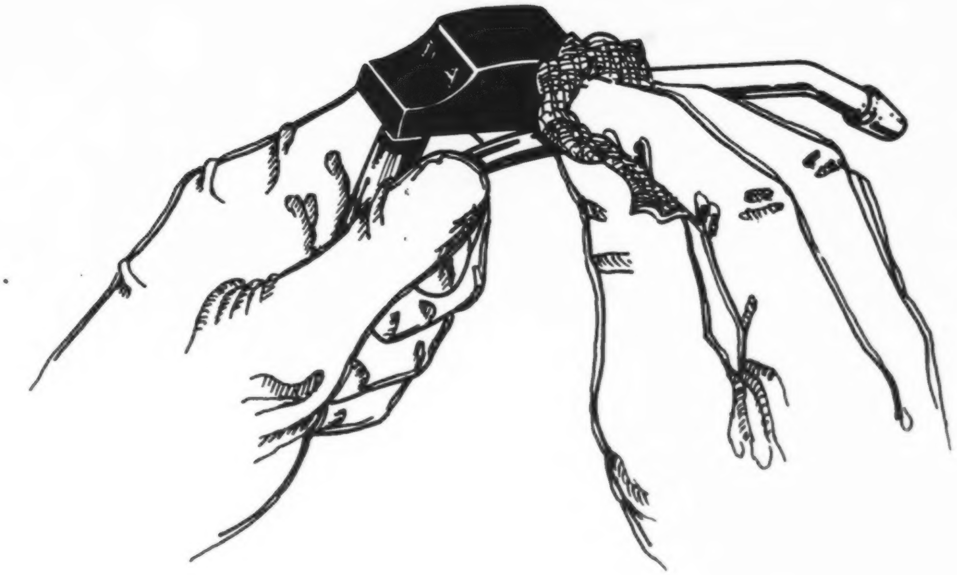
1. a. Scrub all instruments with soap and a stiff-bristle brush.
   b. Rinse thoroughly under running water until all soap is removed.
   c. Drain or dry.
2. A heat or chemical process by which microbial life is destroyed; does not include destruction of all viruses or bacterial spores
3. a. Glutaraldehyde
   b. Iodophor solution
   c. Sodium hypochlorite
4. The student may list any five of the following:
   a. Drawer pulls
   b. Operator's cart and its components
   c. Dental chair (arms, headrest and switches)
   d. Light handles
   e. Suction hoses
   f. Assistant's cart and its components
   g. X-ray machine (if used)
   h. Tray or bracket table
   i. All counter tops
   j. Anything that was touched
5. 10 minutes is the average recommended time of exposure

Ultrasonic Instrument Cleaning



Ultrasonic cleaning is a mechanical means of scrubbing dental equipment.

Surfaces to be Wiped Down After Each Patient Treatment



1. Drawer pulls
2. Operator's cart and its components
3. Dental chair (arms, headrest, and switches)
4. Light handles
5. Suction hoses
6. Assistant's cart and its components
7. X-ray machine (if used)
8. Tray or bracket table
9. All counter tops
10. Anything that was touched

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-1 OR DEMONSTRATION:

ARCHES, PLANES, AND QUADRANTS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Define the maxillae and the mandible.
2. Describe the alveolar process of the maxillae and the mandible.
3. Identify the maxillae, the mandible and the temporomandibular joint on a diagram.
4. Identify the transverse and the midsagittal planes on a diagram.
5. List one alternate name for the transverse plane and one alternate name for the midsagittal plane.
6. Label the four dental quadrants on a diagram.
7. Identify the function of the midsagittal plane.
8. Identify the function of the transverse plane.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Dental Arches
2. HO 2: Dental Planes
3. HO 3: Dental Quadrants
4. AS 1: Arches, Planes, and Quadrants

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. *Boucher's Clinical Dental Terminology*. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. *Modern Dental Assisting*. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

In order to be an effective dental aide it is necessary to have a working knowledge of the basic anatomy of the oral cavity. This unit will introduce you to the permanent and primary dentitions. Lesson one discusses the dental arches and quadrants and the two planes that divide them.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Terms and Definitions

A. Alveolar (ăl-vē´-lăhr) process - the portion of the maxillae or mandible that forms the dental arch and serves as the bony anchor for the roots of the upper and lower teeth

B. Dental arch - structure of the dentition and alveolar ridge within the lower (mandibular) and upper (maxillary) jaws

C. Dental quadrant - one-fourth of the total dentition divided by the intersection of the occlusal and midsagittal planes

D. Dentition (dĕn-tĭsh´-ŭn) - the natural teeth in position in the dental arches

E. Mandible (măn´-dĭ-bŭl) - large circular bone forming the lower jaw

F. Mandibular (măn-dĭ´-bū-lŭr) - pertaining to the lower jaw

G. Masticate (măs´-tĭ-kāte) - to grind or crush food with the teeth in preparation for swallowing and digestion

H. Maxillae (măk-sĭl´-ăh) - two irregularly shaped bones forming the upper jaw

I. Maxillary (măk´-sĭ-lār-ē) - pertaining to the upper jaw

J. Midsagittal (mĭd´-săj-ĭ-tăl) plane - the plane or imaginary line equally distant from features on both sides of the head, determined by the mesial (middle) surfaces of the central incisors

K. Process - in anatomy, a marked projection or prominence of a bone

L. Transverse or occlusal (ŭh-klū´-zĕl) plane - a plane at right angles to the midline of the body

II. Arches (HO 1)

A. Maxillary arch

1. Dental arch containing the upper teeth

2. Named for the front facial bones called the maxillae

a. The maxillae are actually two separate bones fused in the middle, located just inferior to (below) the nose.

b. The maxillae and the teeth in the maxillary arch remain stationary when one speaks or chews.

c. The upper teeth are rooted in a bony extension of the maxillae known as the alveolar process of the maxillae.

B. Mandibular arch

1. Dental arch containing the lower teeth

2. Named for the lower jaw bone called the mandible

a. The mandible is a single bone joined to the skull by a joint known as the temporomandibular joint.

b. The mandible is the only bone in the head that moves.

(1) When the mouth is open, the mandible drops away from the rest of the skull. (II-1)

(2) When a person chews, (masticates) the mandibular (lower) teeth lift and press against the maxillary (upper) teeth.

c. The lower teeth are rooted in a bony extension of the mandible known as the alveolar process of the mandible.

III. Dental Planes (HO 2)

A. Midsagittal plane

1. The imaginary line dividing the human body into a right half and a left half.

2. The teeth in each dental arch are divided into the teeth on the right and the teeth on the left by an imaginary line between the two front teeth.

   a. The midsagittal plane between the front teeth on each arch is referred to in dentistry as the midline.

   b. The two front teeth on each arch are called the central incisors.

   c. The right half and the left half of each arch have the same number and types of teeth.

3. When determining right from left, the practitioner's right is always the patient's left.

   a. Described as the "mirror effect" (II-2)

   b. When looking into a patient's mouth or at a dental arch diagram, the structures on your left will be located on the patient's right and vice versa.

B. Transverse plane

1. Imaginary line bisecting the midline and dividing the dentition into a maxillary arch and a mandibular arch

2. Referred to in dentistry as the occlusal plane because the biting surfaces of back teeth are known as occlusal surfaces

3. The mandibular and maxillary arches each have the same number and types of teeth.

IV. Dental Quadrants (HO 3)

A. Formation of quadrants

1. The midline divides the maxillary and mandibular arches into a right half and a left half.

2. Each half of an arch has the same number and types of teeth as the other half.

3. Half of a dental arch is known as a quadrant, (one fourth of the total dentition).

4. Quadrants extend from the central incisor to the right or left of the midline on either arch, to the last molar on the same side.

B. Names of quadrants

1. Maxillary right quadrant - extends from the maxillary right central incisor (first upper front tooth to the right of the midline) to the last molar on the patient's upper right side

2. Maxillary left quadrant - extends from the maxillary left central incisor (first upper front tooth to the left of the midline) to the last molar on the patient's upper left side

3. Mandibular left quadrant - extends from the mandibular left central incisor (first lower front tooth to the left of the midline) to the last molar on the patient's lower left side

4. Mandibular right quadrant - extends from the mandibular right central incisor (first lower front tooth to the right of the midline) to the last molar on the patient's lower right side

V. Summary and Conclusion

A. Terms and definitions

B. Dental arches

C. Dental planes

D. Dental quadrants

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. Is it possible to open your mouth without moving your mandible?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Have students pair off and complete this exercise:

   Have a friend face you and raise his or her right hand while you raise your right hand. It looks as if your friend is raising the opposite hand; this demonstrates the "mirror effect."

2. Complete Assignment Sheet 1: "Arches, Planes and Quadrants."

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

Select the one, best answer and place the corresponding letter in the blank.

____ 1. The transverse plane divides the dentition into:

   a. A right half and a left half
   b. Three quadrants
   c. Upper and lower arches
   d. b and c

____ 2. The midsagittal plane divides the dentition into:

   a. A right half and a left half
   b. Upper and lower arches
   c. Three quadrants
   d. b and c

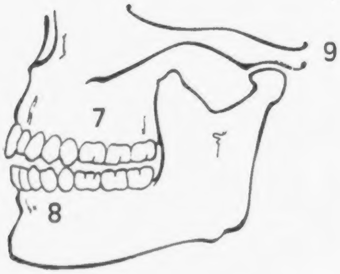
3. In dentistry, the transverse plane is referred to as the ________________ plane and the midsagittal plane is referred to as the ________________________.

4. Describe the alveolar process of the maxillae and the mandible and explain its function.

5. Define the maxillae.

6. Define the mandible.

Label the numbered structures:



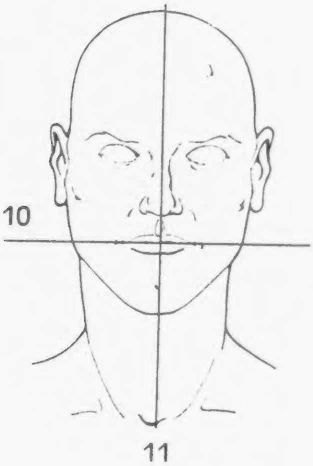
7. ______________________________

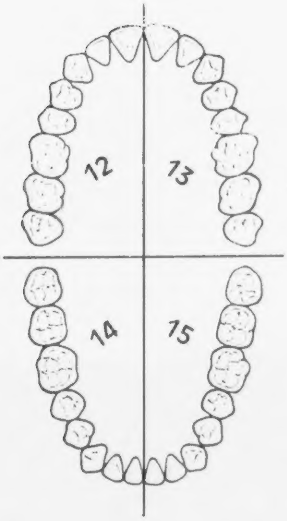
8. ______________________________

9. ______________________________

10. ______________________________

11. ______________________________





Label the numbered quadrants.

12. ______________________________

13. ______________________________

14. ______________________________

15. ______________________________

LESSON PLAN: 1

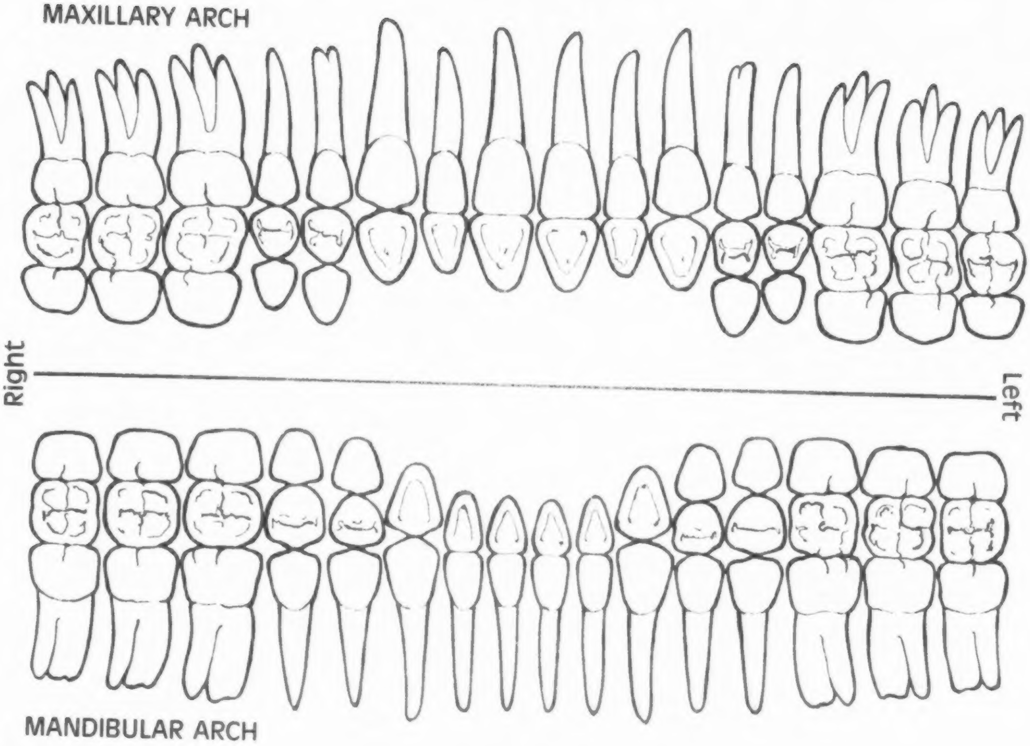
COURSE TITLE: DENTAL AIDE

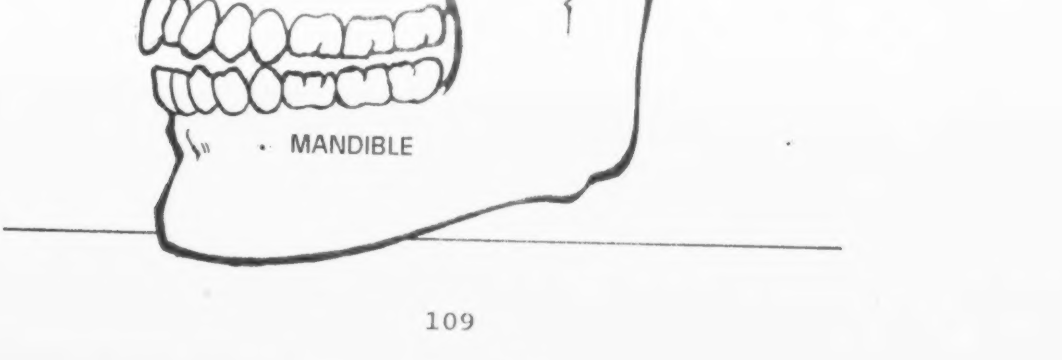
UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

ANSWERS TO EVALUATION ITEMS:

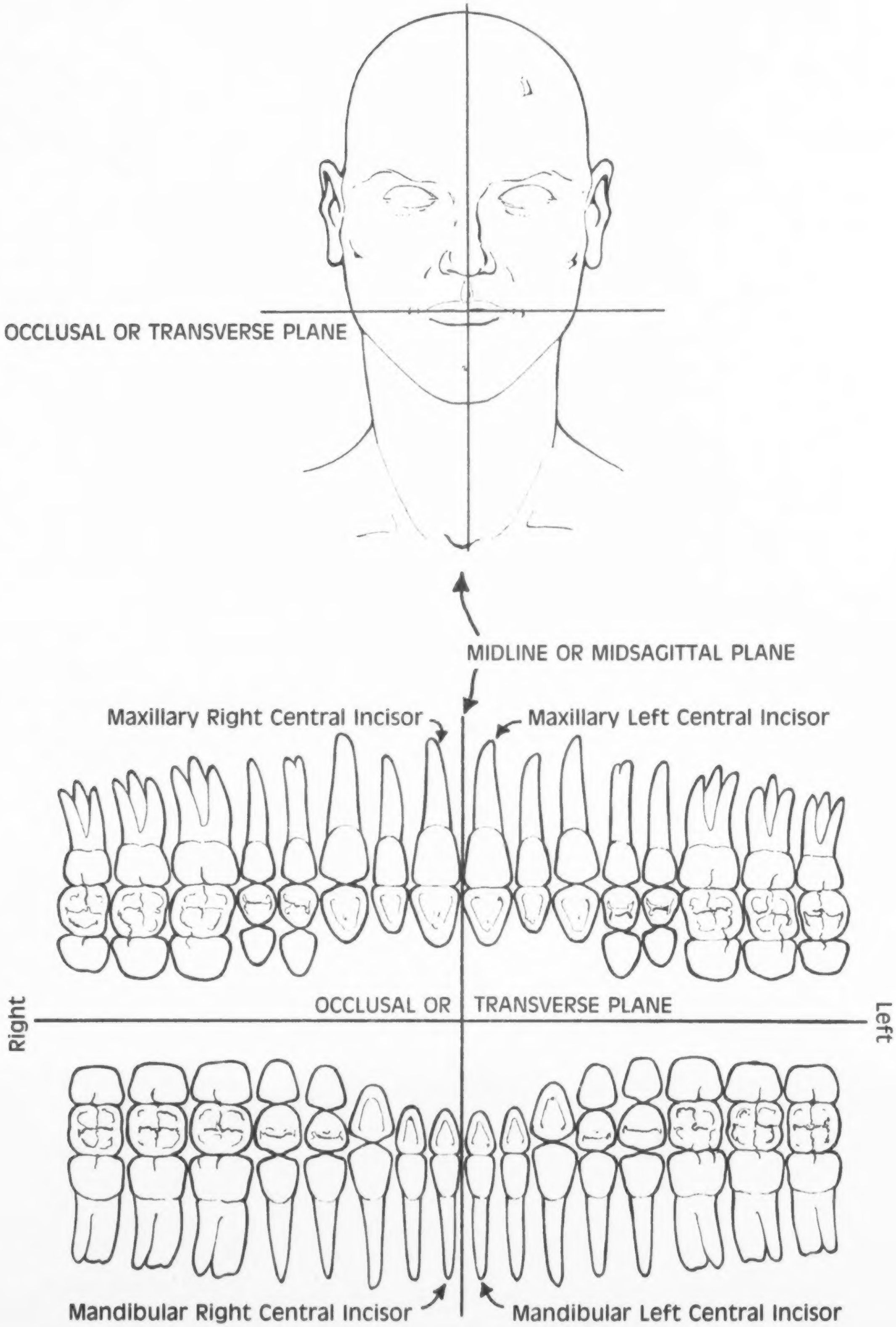
1. c
2. a
3. occlusal, midline
4. The alveolar process is a bony extension of the maxillae and mandible into which teeth are rooted. Its function is to stabilize the teeth in the dental arches.
5. Two irregularly shaped bones fused in the middle, which form the upper jaw
6. Large single circular bone forming the lower jaw
7. Maxillae
8. Mandible
9. Temporomandibular joint
10. Transverse or occlusal plane
11. Midline or midsagittal plane
12. Maxillary right quadrant
13. Maxillary left quadrant
14. Mandibular right quadrant
15. Mandibular left quadrant

Dental Arches


MAXILLARY ARCH
Right
Left
MANDIBULAR ARCH

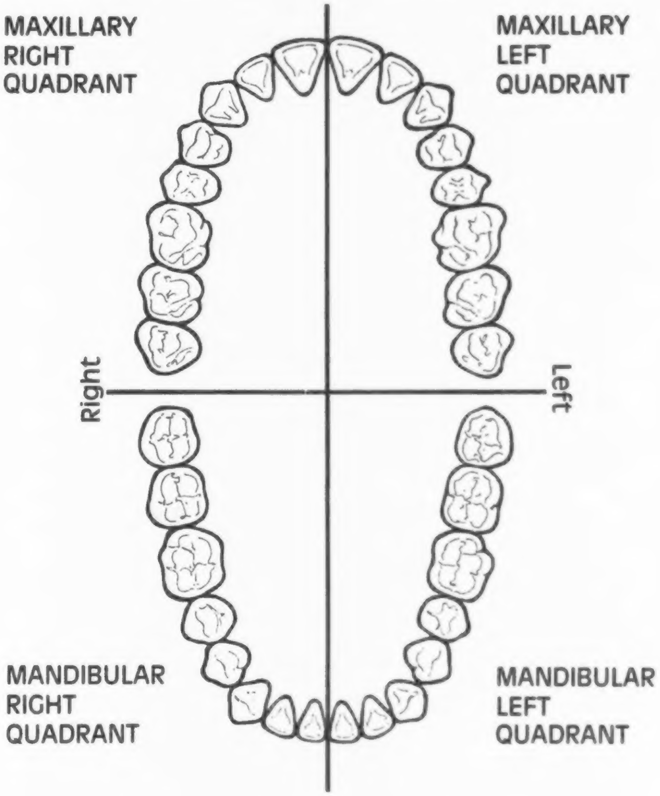

TEMPOROMANDIBULAR JOINT
MAXILLAE
MANDIBLE

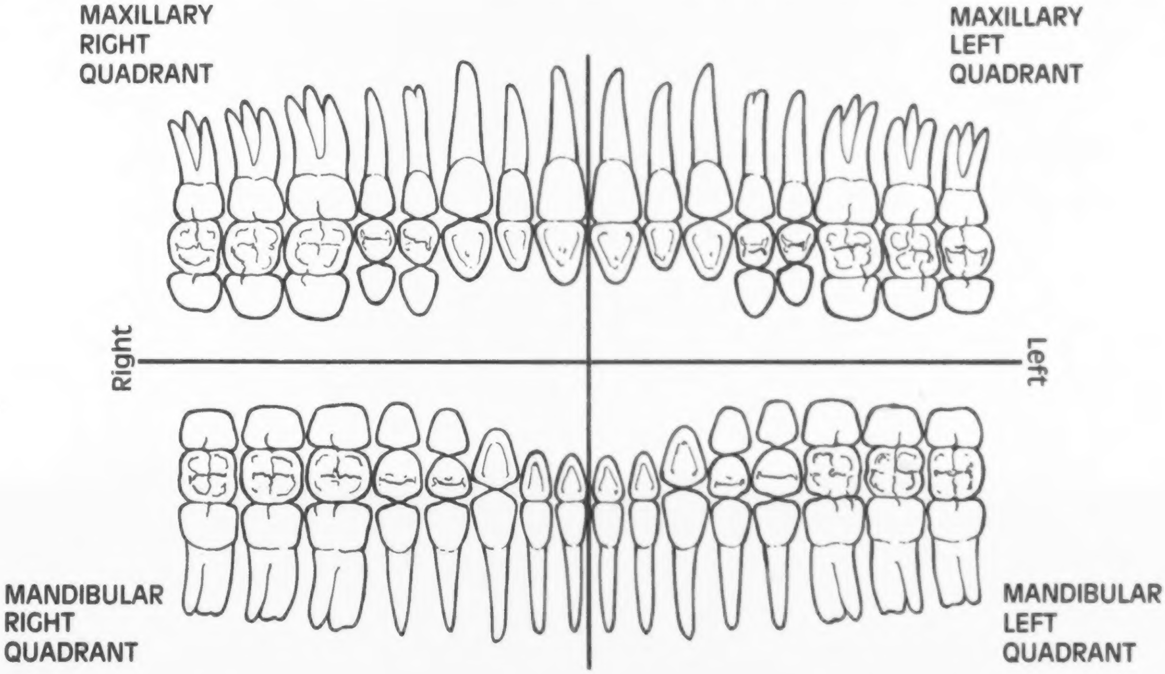
Dental Planes


OCCLUSAL OR TRANSVERSE PLANE
MIDLINE OR MIDSAGITTAL PLANE
Maxillary Right Central Incisor
Maxillary Left Central Incisor
Right
OCCLUSAL OR TRANSVERSE PLANE
Left
Mandibular Right Central Incisor
Mandibular Left Central Incisor

HO 3

Dental Quadrants


MAXILLARY
RIGHT
QUADRANT
MAXILLARY
LEFT
QUADRANT
Right
Left
MANDIBULAR
RIGHT
QUADRANT
MANDIBULAR
LEFT
QUADRANT


MAXILLARY
RIGHT
QUADRANT
MAXILLARY
LEFT
QUADRANT
Right
Left
MANDIBULAR
RIGHT
QUADRANT
MANDIBULAR
LEFT
QUADRANT

Remember -- the "mirror effect"as you study this drawing, that which is your right is left in the drawing and that which is left is actually right.

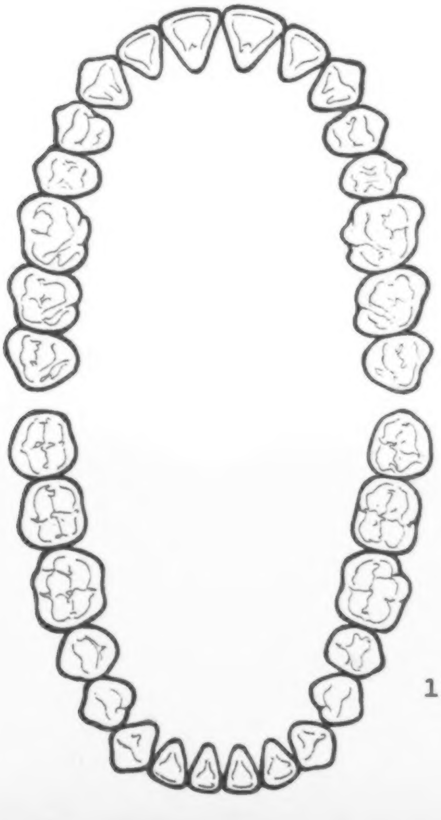
Assignment Sheet 1
Arches, Planes, and Quadrants

Name: ______________________

Date: ______________________

Directions: Use information from the lesson outline to complete this assignment sheet.

1. The upper teeth are situated in the ______________________ arch.
2. The lower teeth are situated in the ______________________ arch.
3. The jaw bone that is composed of two bones fused together is the ______________________.
4. The jaw bone that moves when speaking or chewing is the ______________________ and it is attached to the skull by the ______________________ joint.
5. The two front teeth in each arch are the ____________ ____________ and the imaginary line running vertically between them to divide the arches into right and left halves is the ______________________ or ______________________ plane.
6. The bony extension of the upper and lower jaw bone into which teeth are rooted is the ____________ ____________ of the ______________________ or ______________________.
7. Quadrants extend from the ____________ ____________ to the right or left of the ____________ of an arch to the last molar on the same side.
8. Quadrants are formed by the bisection of the ______________________ plane and the ____________ plane and divide the dentition into ____________ sections.



On the diagram, use a ruler to draw in and label the two planes that form the quadrants, label the left half of the dentition with an "L" and the right half with an "R," and label the two arches with their proper names.

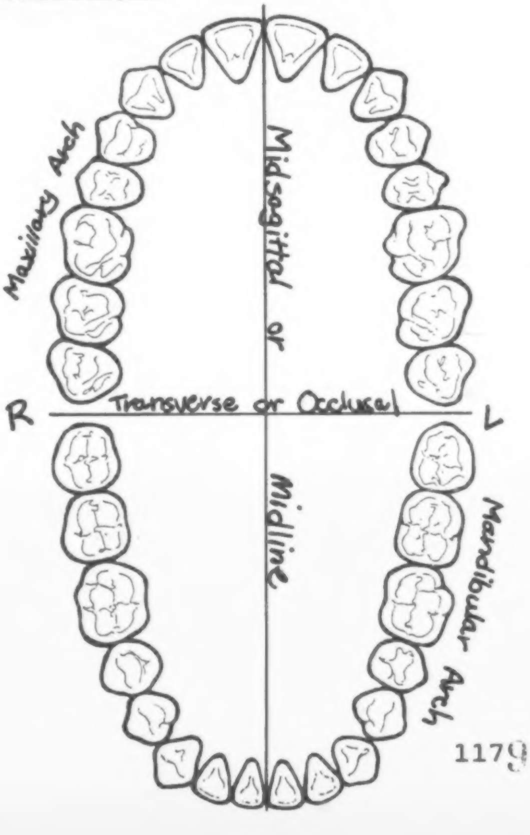
Answers To Assignment Sheet 1
Arches, Planes, and Quadrants

Name: ____________________

Date: ____________________

Directions: Use information from the lesson outline to complete this assignment sheet.

1. The upper teeth are situated in the Maxillary arch.
2. The lower teeth are situated in the Mandibular arch.
3. The jaw bone that is composed of two bones fused together is the Maxillae.
4. The jaw bone that moves when speaking or chewing is the Mandible and it is attached to the skull by the Temporomandibular joint.
5. The two front teeth in each arch are the Central Incisors and the imaginary line running vertically between them to divide the arches into right and left halves is the Midline or Midsagittal plane.
6. The bony extension of the upper and lower jaw bone into which teeth are rooted is the Alveolar process of the Maxillae or Mandible.
7. Quadrants extend from the Central Incisor to the right or left of the Midline of an arch to the last molar on the same side.
8. Quadrants are formed by the bisection of the Midsagittal plane and the Transverse plane and divide the dentition into four sections.



On the diagram, use a ruler to draw in and label the two planes that form the quadrants, label the left half of the dentition with an "L" and the right half with an "R," and label the two arches with their proper names.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-2 OR DEMONSTRATION:

NAMES, TYPES, AND FUNCTIONS OF TEETH
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Match terms presented in this lesson to correct definitions.
2. List the four basic types of teeth and describe the functions of each.
3. Identify specific teeth on a diagram of the dental arches.
4. List the names of the anterior and posterior teeth.
5. Differentiate between anterior and posterior teeth on a diagram of the dental arches.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Types of Teeth
2. HO 2: Maxillary Teeth
3. HO 3: Mandibular Teeth
4. HO 4: Names of Teeth
5. AS 1: Names, Types, and Functions of Teeth

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. Boucher's Clinical Dental Terminology. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

In the first lesson of this unit we studied the maxillary and mandibular arches, the midline and occlusal planes, and the quadrants of dentition. We will employ what we learned in that lesson as we study the types of teeth, their functions, and the proper names of the teeth in each quadrant.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Terms and Definitions

A. Anterior (ăn-tēr′-ē-ĕr)

1. Situated in front of

2. Term used to denote the incisor and canine teeth or the forward region of the mouth

B. Cuspid (kŭs′-pĭd) - one of the four pointed anterior teeth situated on each side of each arch distal to the lateral incisors; sometimes referred to as "canines"

C. Esthetic (ĕs-tĕ′-tĭk) - relating to or dealing with that which is pleasing to the eye

D. Incisor (ĭn-sī′-zōr) - a cutting tooth; one of the four anterior cutting teeth in each arch

E. Molar - a tooth adapted to grinding by having a broad, somewhat ridged surface; one of the twelve teeth (six in each arch) located in the posterior aspect of the arch

F. Posterior (pōs′-tēr-ē-ĕr)

1. Situated behind

2. Term used to denote the premolar and molar teeth or the rear region of the mouth

G. Premolar - one of the eight teeth (four in each arch) between the cuspids and first molars that replace the molars of the primary dentition; sometimes referred to as "bicuspids"

II. Types of Teeth (HO 1)

- A. Incisors
  1. The two front teeth on either side of the midline in each dental quadrant
  2. Are part of the group known as anterior teeth
     - a. The term anterior means "toward the front."
     - b. There are six anterior teeth in each arch and three in each quadrant.
- B. Cuspids
  1. The third tooth back from the midline in each dental quadrant
  2. Sometimes referred to as "canines" or "eye teeth"
  3. Cuspids are part of the group known as anterior teeth.
     - a. Each arch contains four incisors and two cuspids.
     - b. Each quadrant contains two incisors and one cuspid.
- C. Premolars
  1. The fourth and fifth tooth back from the midline in each dental quadrant
  2. Sometimes referred to as "bicuspids"
  3. Each arch contains four premolars.
  4. Each quadrant contains two premolars.
  5. Part of the group known as "posterior teeth."
     - a. The term posterior means "toward the back."
     - b. There are ten posterior teeth in each arch and five in each quadrant.
- D. Molars
  1. The sixth, seventh and eighth teeth back from the midline in each quadrant

2. Molars are part of the group known as posterior teeth.

    a. Each arch contains four premolars and six molars.

    b. Each quadrant contains two premolars and three molars.

III. Functions of Teeth

A. General functions

1. Masticate food in preparation for swallowing and digestion

2. Aid tongue and larynx (voice box) in formation of speech sounds (II-1)

3. Contribute to pleasant appearance

    a. Teeth help form facial contour.

    b. Straight white teeth are considered aesthetically pleasing.

B. Functions of incisors

1. Cutting food, as in biting through a sandwich

2. Speech sounds

3. Aesthetics

C. Functions of cuspids

1. Cutting and tearing food

2. Speech sounds

3. Aesthetics

D. Functions of premolars

1. Assist cuspids in cutting and tearing food

2. Assist molars in grinding and pulverizing food

3. Speech sounds

E. Functions of molars

1. Grinding and pulverizing food into pieces small enough to swallow easily

2. Speech sounds

3. Maintain proper vertical dimension between arches

   a. When molars are missing the arches collapse and become too close together vertically.

   b. Missing molars place too much mastication pressure on anterior teeth, causing abnormal wear and painful traumatic conditions.

IV. Names of Teeth

A. General classifications for identification

1. Maxillary teeth; teeth in the upper arch (HO 2)

2. Mandibular teeth; teeth in the lower arch (HO 3)

3. Right or left; teeth to the right or left of the patient's midline

   a. Patient's right is practitioner's left ("mirror effect")

   b. Midline is imaginary line between central incisors dividing each arch into a right and left quadrant

4. Each arch contains sixteen teeth.

5. Each quadrant contains eight teeth.

6. There are six anterior teeth in each arch and three in each quadrant.

7. There are ten posterior teeth in each arch and five in each quadrant.

8. Teeth are identified by proper name and position in the oral cavity.

   a. The first step is to identify the arch in which a given tooth is located.

   b. The second step is to identify the quadrant in which a given tooth is located (right or left).

    c. The third step is to relate the proper name for the tooth, i.e.; "central incisor" or "first premolar."

B. Names of teeth by arch and quadrant (HO 4)

1. Each quadrant of permanent dentition contains one central incisor.
    a. Maxillary right central incisor
    b. Maxillary left central incisor
    c. Mandibular left central incisor
    d. Mandibular right central incisor
2. Each quadrant of permanent dentition contains one lateral incisor.
    a. Maxillary right lateral incisor
    b. Maxillary left lateral incisor
    c. Mandibular left lateral incisor
    d. Mandibular right lateral incisor
3. Each quadrant of permanent dentition contains one cuspid.
    a. Maxillary right cuspid
    b. Maxillary left cuspid
    c. Mandibular left cuspid
    d. Mandibular right cuspid
4. Each quadrant of permanent dentition contains two premolars.
    a. Maxillary right first premolar
    b. Maxillary right second premolar
    c. Maxillary left first premolar
    d. Maxillary left second premolar
    e. Mandibular left first premolar
    f. Mandibular left second premolar

   g. Mandibular right first premolar

   h. Mandibular right second premolar

5. Each quadrant of permanent dentition contains three molars.

   a. Maxillary right first molar

   b. Maxillary right second molar

   c. Maxillary right third molar

   d. Maxillary left first molar

   e. Maxillary left second molar

   f. Maxillary left third molar

   g. Mandibular left first molar

   h. Mandibular left second molar

   i. Mandibular left third molar

   j. Mandibular right first molar

   k. Mandibular right second molar

   l. Mandibular right third molar

6. Some permanent teeth have alternate names.

   a. Cuspids are sometimes referred to as "canines."

   b. Premolars are sometimes referred to as "bicuspids."

   c. First molars are sometimes referred to as "six year molars" because their eruption date is near the age of six.

   d. Second molars are sometimes referred to as "twelve year molars" because their eruption date is near the age of twelve.

   e. Third molars are sometimes referred to as "wisdom teeth" because they erupt between the ages of seventeen and twenty-one. (II-2)

(1) Many people's third molars never form at all, (congenitally missing) or become impacted in the alveolar process because there is no room for them in the dental arch (II-2)

(2) Theoretically, third molars are being evolved from the human race because they are no longer needed due to an increasingly refined diet.

V. Summary and Conclusion

A. Terms and definitions

B. Types of teeth

C. Functions of teeth

D. Names of teeth

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. Teeth are essential to proper enunciation of certain speech sounds. Can you say the letter "t" or the letter "s" clearly without touching your teeth together?
2. You probably know someone whose wisdom teeth were impacted and had to be removed, or perhaps it has happened to you. Do you know whether the teeth were still imbedded in the alveolar process?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Complete Assignment Sheet 1: "Names, Types, and Functions of Teeth."

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

Match the following terms to correct definitions.

____ 1. A tooth adapted to grinding

____ 2. A cutting tooth

____ 3. Sometimes referred to as "bicuspids"

____ 4. Situated in front of

____ 5. Dealing with that which is pleasing to the eye

____ 6. Situated behind

____ 7. Sometimes referred to as "canines"

a. Posterior

b. Molar

c. Esthetic

d. Anterior

e. Premolar

f. Incisor

g. Cuspid

8. List the four basic types of teeth and the masticating function of each type.

   a.

   b.

   c.

   d.

9. List the names of the anterior teeth in one quadrant of permanent dentition.

10. List the names of the posterior teeth in one quadrant of permanent dentition.

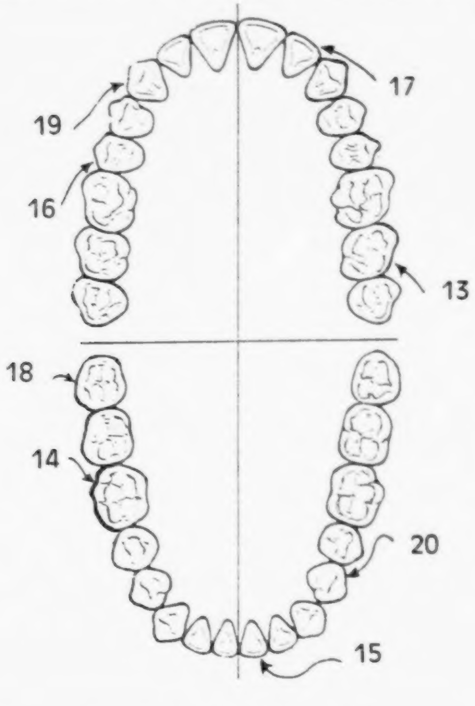
Select the one, best answer and write the letter in the blank.

____ 11. Upper teeth are located in the:

a. Mandibular arch
b. Anterior aspect of the dentition
c. Posterior aspect of the dentition
d. Maxillary arch

____ 12. The midline:

a. Separates the arches into a right half and a left half
b. Separates the arches into anterior and posterior regions
c. Separates the arches into an upper and a lower quadrant
d. Is also known as the occlusal plane



Identify the teeth indicated in the diagram. Write the correct name in the space provided.

13. ______________________
14. ______________________
15. ______________________
16. ______________________
17. ______________________
18. ______________________
19. ______________________
20. ______________________

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

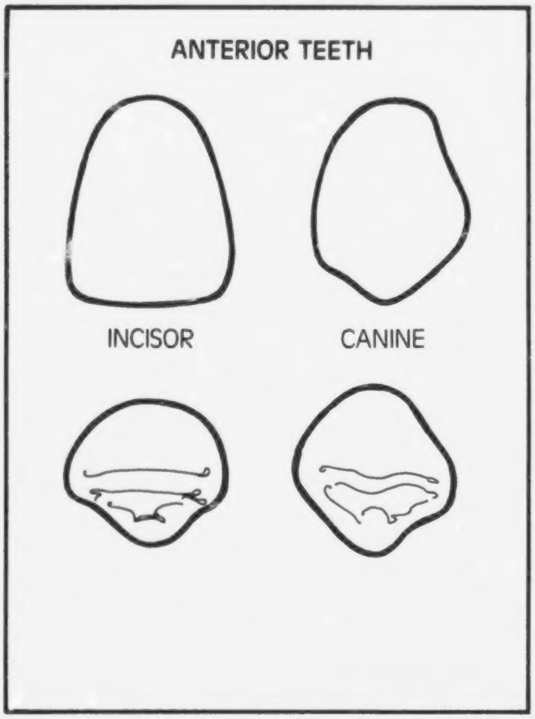
UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

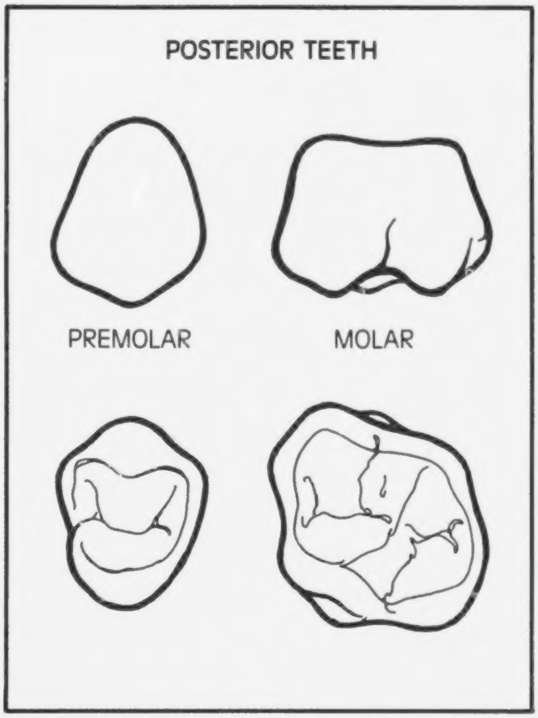
ANSWERS TO EVALUATION ITEMS:

1. b
2. f
3. e
4. d
5. c
6. a
7. g
8. a. Incisors - cutting food
   b. Cuspids - cutting/tearing food
   c. Premolars - assist molars in grinding and pulverizing
   d. Molars - grinding and pulverizing food
9. One central incisor, one lateral incisor, one cuspid
10. Two premolars, three molars
11. d
12. a
13. Maxillary left second molar
14. Mandibular right first molar
15. Mandibular left central incisor
16. Maxillary right second premolar
17. Maxillary left lateral incisor
18. Mandibular right third molar
19. Maxillary right cuspid
20. Mandibular left first premolar

Types of Teeth

Humans eat a variety of foods including both meat and plants. To enable them to chew this type of diet, four different types of teeth have evolved.

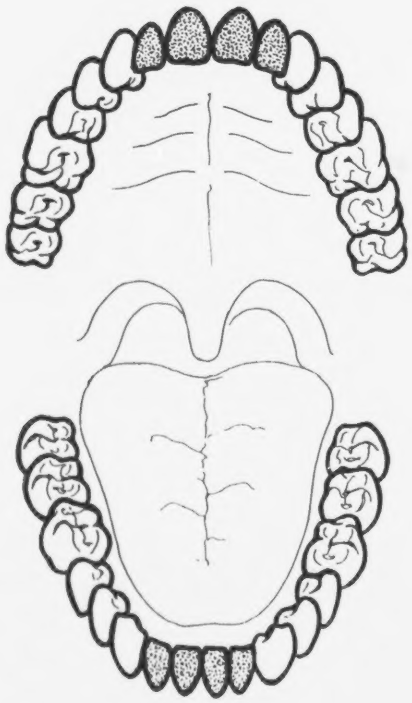

ANTERIOR TEETH
INCISOR
CANINE


POSTERIOR TEETH
PREMOLAR
MOLAR

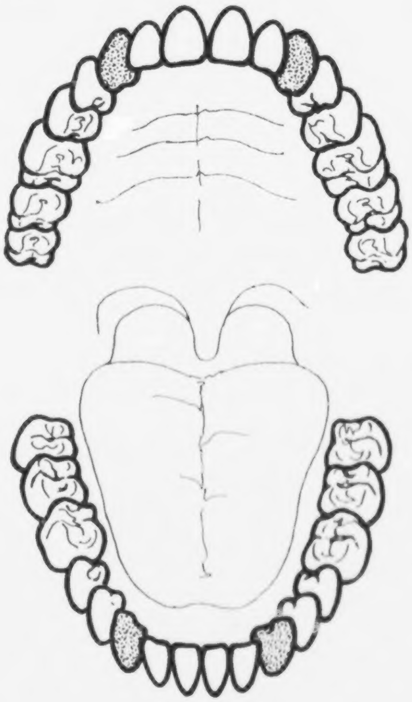
ANTERIOR TEETH - Anterior means toward the front. The **incisors** and **canines** are located in the front of the mouth and are collectively referred to as anterior teeth.

POSTERIOR TEETH - Posterior means toward the back. The **premolars** and **molars** are located toward the back of the mouth and are referred to collectively as the posterior teeth.

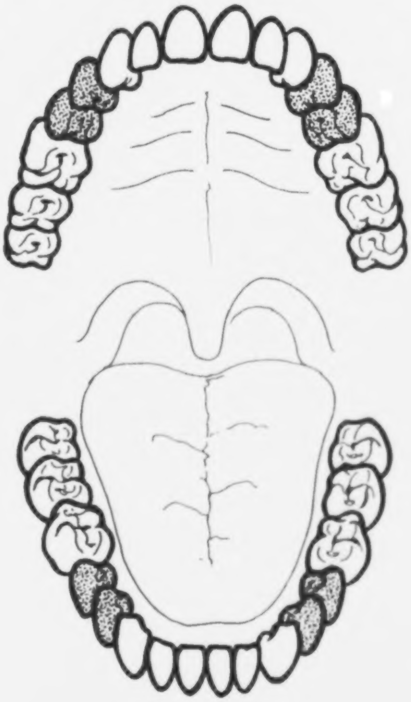
Types of Teeth



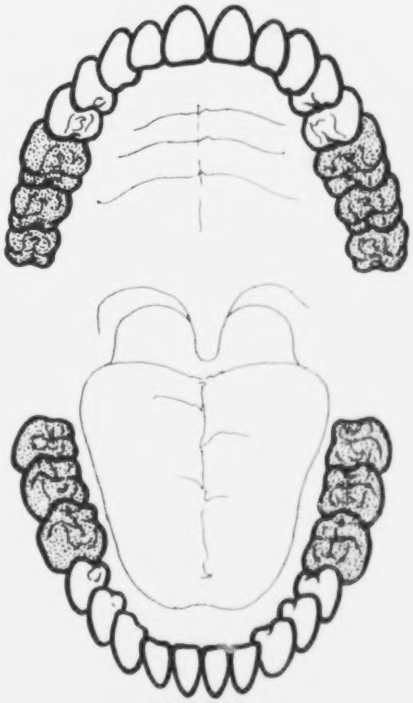
INCISORS
There are two incisors in each quadrant of the permanent dentition, the **central incisor** and the **lateral incisor**.



CANINE
There is one **canine** in each quadrant of the permanent dentition.



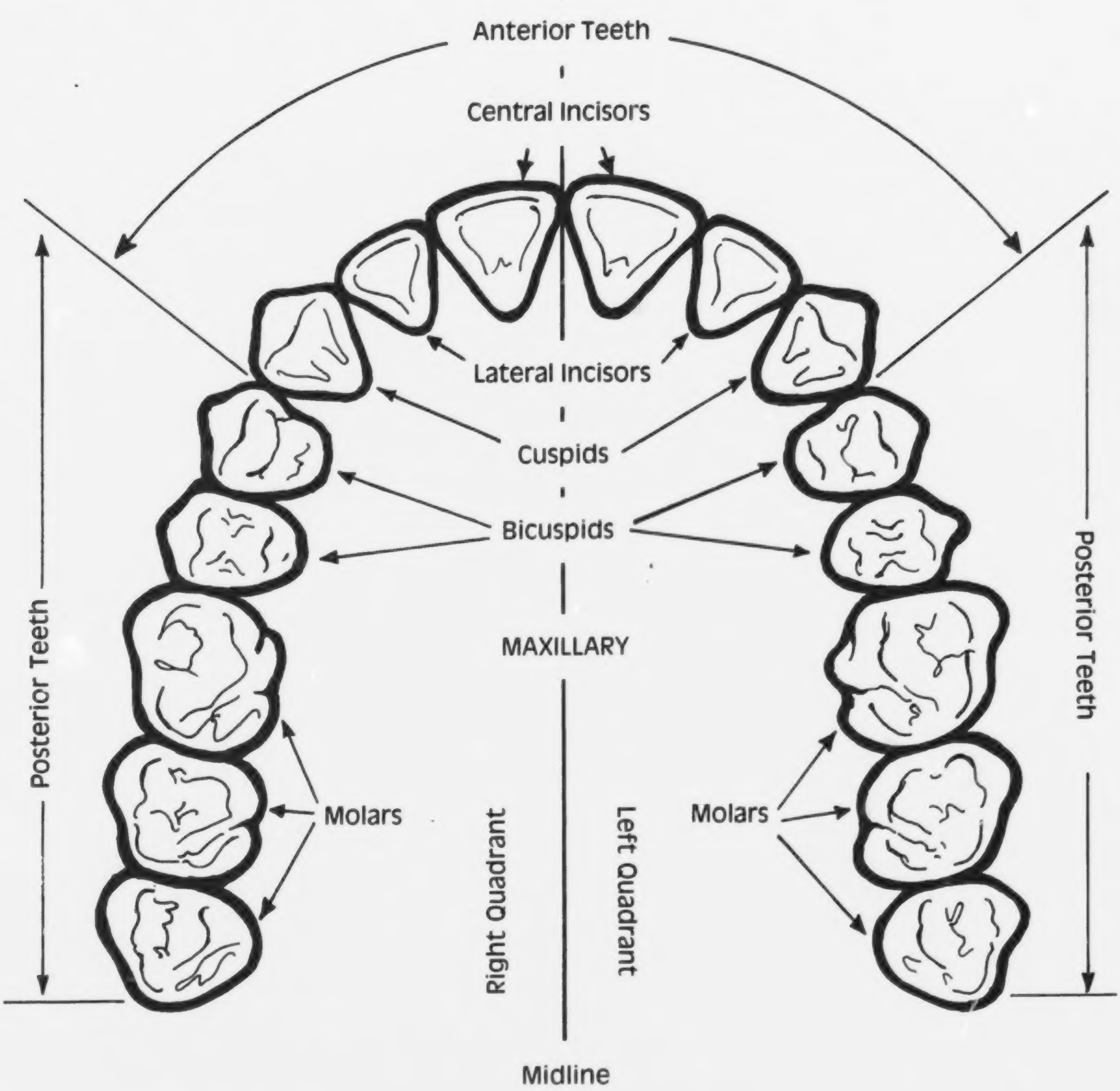
PREMOLARS
There are two premolars in each quadrant of the permanent dentition, the **first premolar** and the **second premolar**.



MOLARS
There are three molars in each quadrant of the permanent dentition, the **first molar, second molar,** and **third molar**.

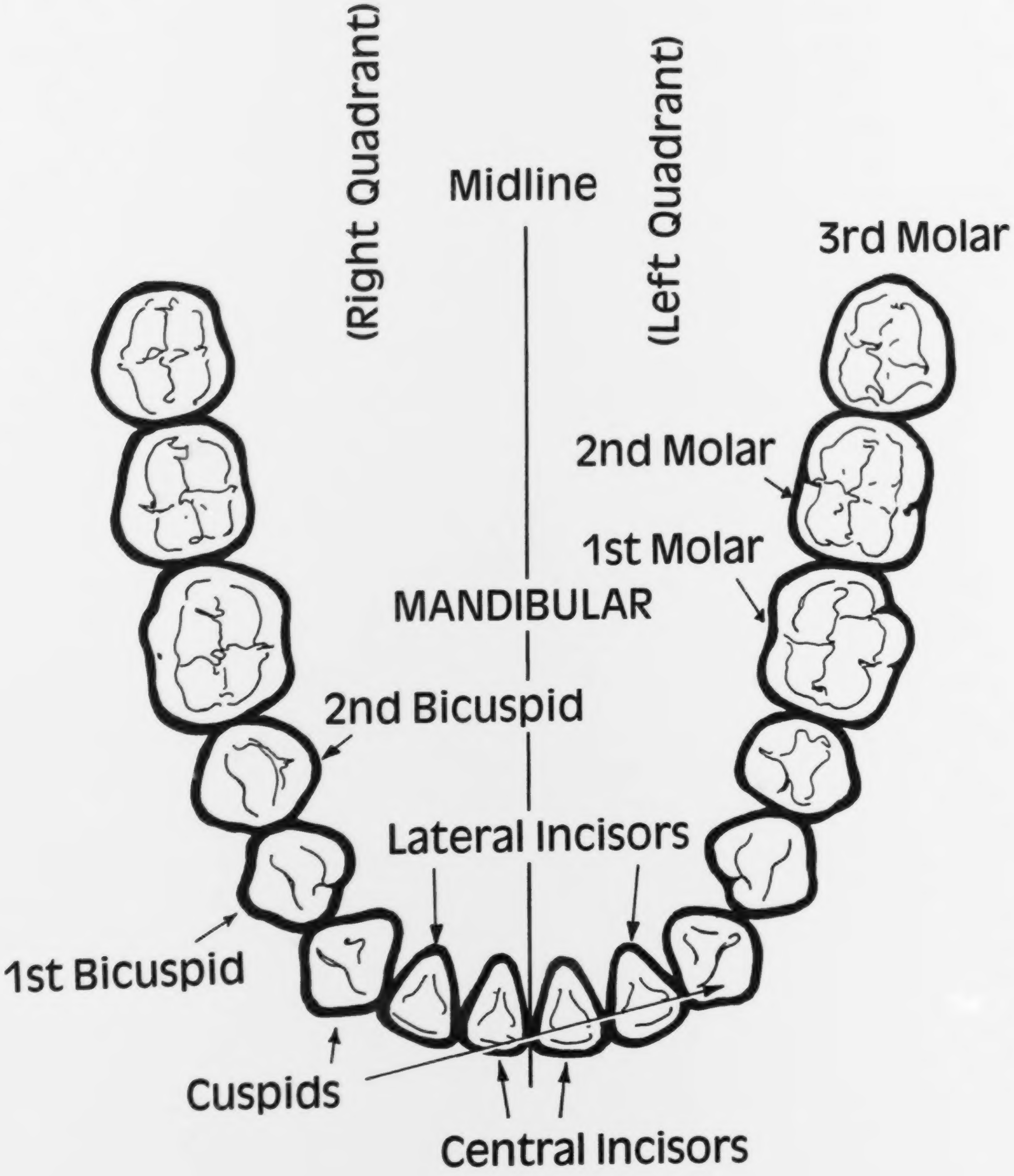
HO 2

Maxillary Teeth

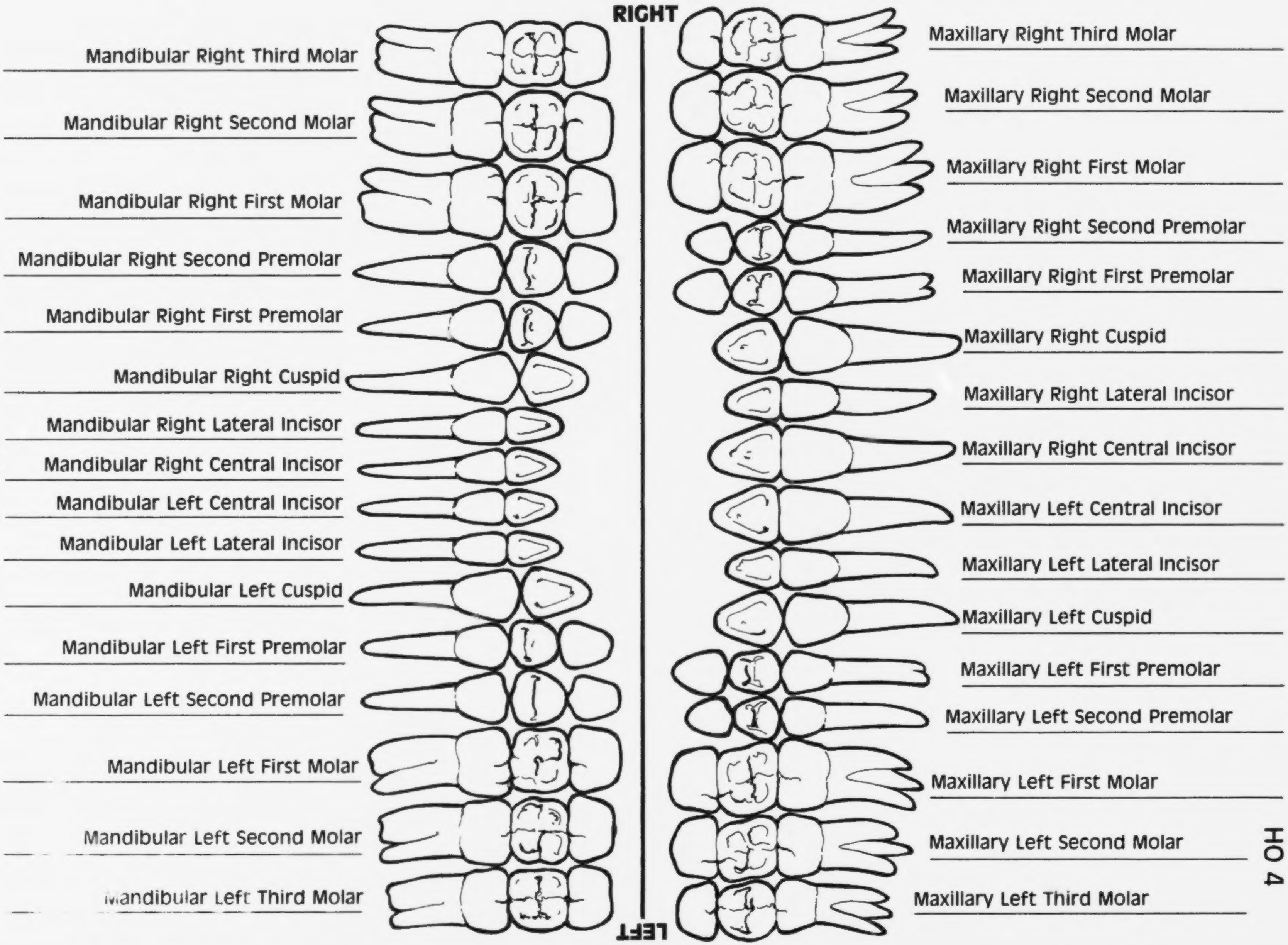

Anterior Teeth
Central Incisors
Lateral Incisors
Cuspids
Bicuspids
MAXILLARY
Posterior Teeth
Posterior Teeth
Molars
Molars
Right Quadrant
Left Quadrant
Midline

HO 3

Mandibular Teeth


(Right Quadrant)
Midline
(Left Quadrant)
3rd Molar
2nd Molar
1st Molar
MANDIBULAR
2nd Bicuspid
Lateral Incisors
1st Bicuspid
Cuspids
Central Incisors

Names of Teeth


RIGHT
Mandibular Right Third Molar
Mandibular Right Second Molar
Mandibular Right First Molar
Mandibular Right Second Premolar
Mandibular Right First Premolar
Mandibular Right Cuspid
Mandibular Right Lateral Incisor
Mandibular Right Central Incisor
Mandibular Left Central Incisor
Mandibular Left Lateral Incisor
Mandibular Left Cuspid
Mandibular Left First Premolar
Mandibular Left Second Premolar
Mandibular Left First Molar
Mandibular Left Second Molar
Mandibular Left Third Molar
Maxillary Right Third Molar
Maxillary Right Second Molar
Maxillary Right First Molar
Maxillary Right Second Premolar
Maxillary Right First Premolar
Maxillary Right Cuspid
Maxillary Right Lateral Incisor
Maxillary Right Central Incisor
Maxillary Left Central Incisor
Maxillary Left Lateral Incisor
Maxillary Left Cuspid
Maxillary Left First Premolar
Maxillary Left Second Premolar
Maxillary Left First Molar
Maxillary Left Second Molar
Maxillary Left Third Molar
LEFT

141

HO 4

AS 1

Assignment Sheet 1
Names, Types, and Functions of Teeth

Name: ______________________

Date: ______________________

Directions: Use information from the lesson outline to complete this assignment sheet.

1. List the three types of teeth known as anterior teeth.
   a. ____
   b. ____
   c. ____

2. What does the term "anterior" mean?

   ____

   ____

3. List two types of teeth know as posterior teeth.
   a. ____
   b. ____

4. What does the term "posterior" mean?

   ____

   ____

5. List two functions for the following teeth.
   a. Incisors
      1. ____
      2. ____
   b. Cuspids
      1. ____
      2. ____
   c. Premolars
      1. ____
      2. ____
   d. Molars
      1. ____
      2. ____

6. When a tooth is identified by name, place a "1" next to which one of the following is designated first, place a "2" next to which is designated second, place a "3" next to which is disignated third.

______ side (right or left) in which tooth is located

______ name of the tooth

______ arch in which tooth is located

7. List an alternate name for the following teeth:

a. Cuspid: ______________________

b. Premolar: ______________________

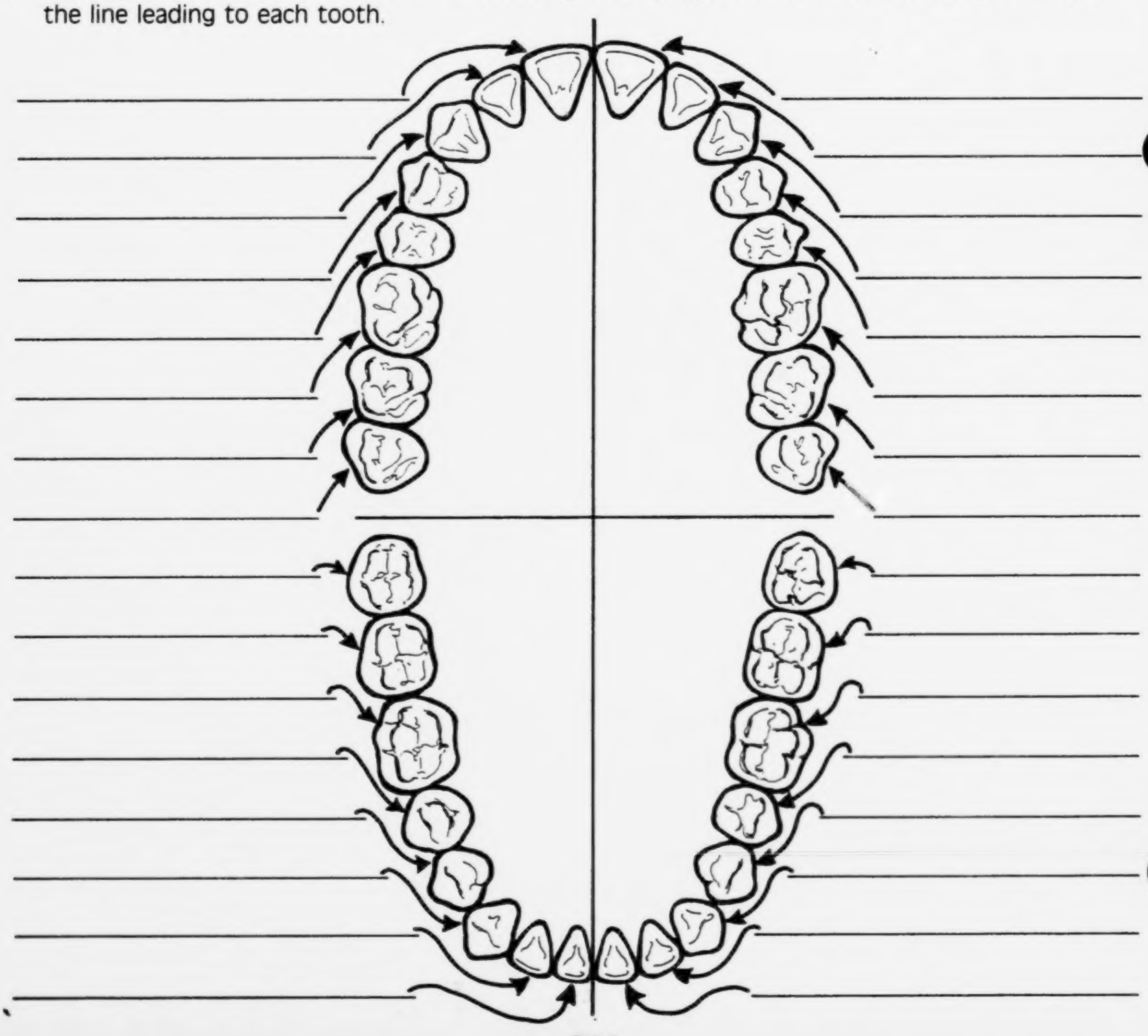
c. First Molar: ______________________

d. Third Molar: ______________________

8. A full quadrant of permanent dentition contains how many teeth? ____________

9. A full arch of permanent dentition contains how many teeth? ____________

10. Identify each tooth in the illustration according to its proper name. Write the correct name on the line leading to each tooth.



Answers To Assignment Sheet 1
Names, Types, and Functions of Teeth

Name: ____________________

Date: ____________________

Directions: Use information from the lesson outline to complete this assignment sheet.

1. List the three types of teeth known as anterior teeth.
   a. Central Incisors
   b. Lateral Incisors
   c. Cuspids

2. What does the term "anterior" mean?
   Toward the front or pertaining to the front six teeth in each arch

3. List two types of teeth know as posterior teeth.
   a. Premolars
   b. Molars

4. What does the term "posterior" mean?
   Toward the back or pertaining to the back ten teeth in each arch

5. List two functions for the following teeth.
   a. Incisors
      1. Cutting food, speech sounds
      2. Esthetics
   b. Cuspids
      1. Cutting and tearing food, speech sounds
      2. Esthetics
   c. Premolars
      1. Assisting incisors, assisting molars
      2. speech sounds
   d. Molars
      1. Grinding and pulverizing food, speech sounds
      2. Maintain vertical dimension between arches

6. When a tooth is identified by name, place a "1" next to which one of the following is designated first, place a "2" next to which is designated second, place a "3" next to which is disignated third.

__2__ side (right or left) in which tooth is located

__3__ name of the tooth

__1__ arch in which tooth is located

7. List an alternate name for the following teeth:

a. Cuspid: Canine

b. Premolar: Bicuspid

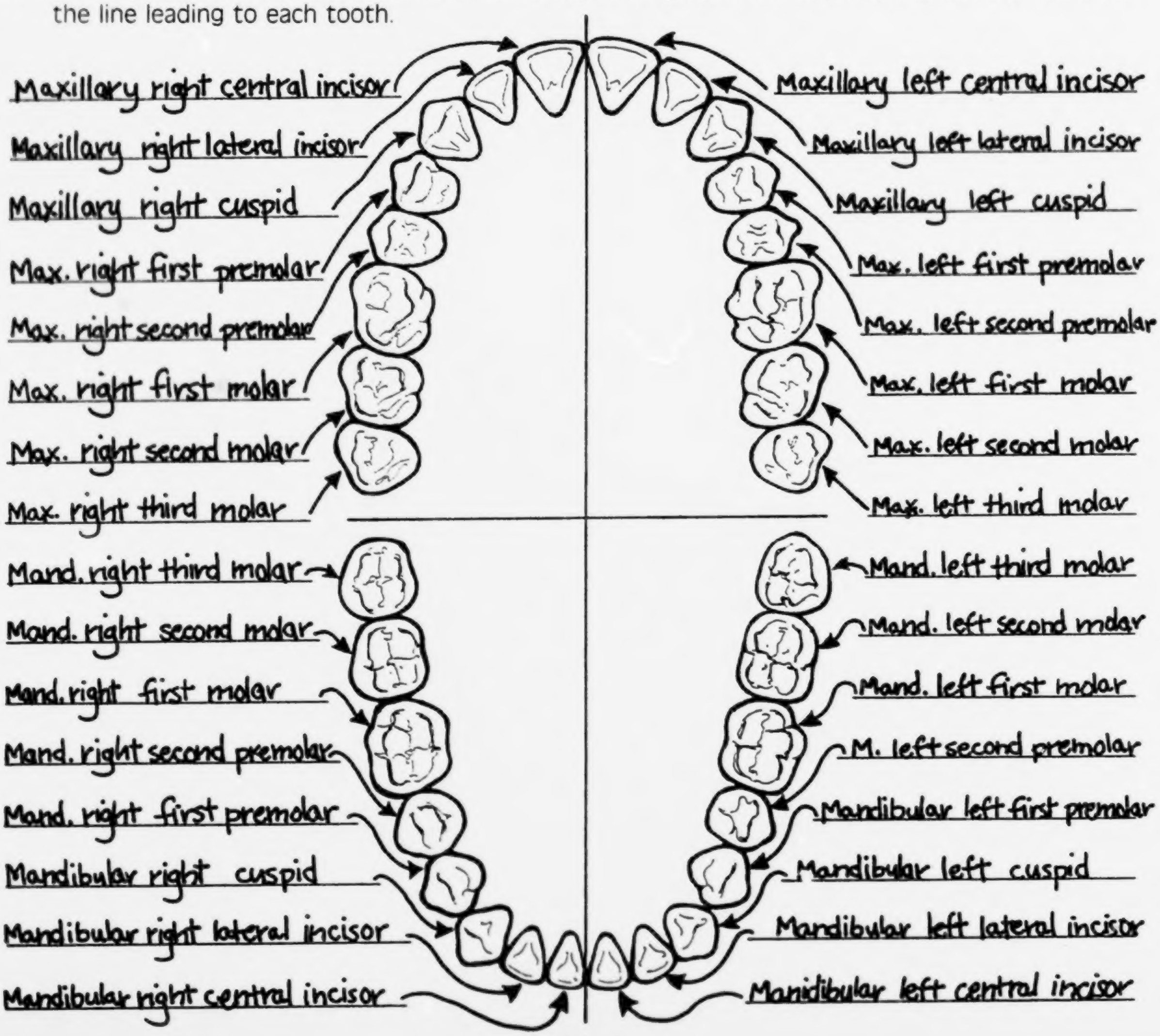
c. First Molar: 6 year molar

d. Third Molar: wisdom tooth

8. A full quadrant of permanent dentition contains how many teeth? 8

9. A full arch of permanent dentition contains how many teeth? 16

10. Identify each tooth in the illustration according to its proper name. Write the correct name on the line leading to each tooth.


Maxillary right central incisor
Maxillary right lateral incisor
Maxillary right cuspid
Max. right first premolar
Max. right second premolar
Max. right first molar
Max. right second molar
Max. right third molar
Mand. right third molar
Mand. right second molar
Mand. right first molar
Mand. right second premolar
Mand. right first premolar
Mandibular right cuspid
Mandibular right lateral incisor
Mandibular right central incisor
Maxillary left central incisor
Maxillary left lateral incisor
Maxillary left cuspid
Max. left first premolar
Max. left second premolar
Max. left first molar
Max. left second molar
Max. left third molar
Mand. left third molar
Mand. left second molar
Mand. left first molar
M. left second premolar
Mandibular left first premolar
Mandibular left cuspid
Mandibular left lateral incisor
Manidibular left central incisor

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-3 OR DEMONSTRATION:

PRIMARY DENTITION
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Define terms related to primary dentition.
2. Distinguish between succedaneous and nonsuccedaneous teeth.
3. Describe the process of root resorption and exfoliation.
4. Define mixed dentition and indicate the approximate ages at which mixed dentition begins and ends.
5. Identify the primary teeth on a diagram.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Primary Dentition
2. HO 2: Names of Primary Teeth
3. HO 3: Mixed Dentition in a Six-Year-Old Child
4. HO 4: Eruption Dates
5. HO 5: Shedding Dates
6. AS 1: Primary Dentition

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. Boucher's Clinical Dental Terminology. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

In the previous two lessons of this unit we discussed arches, planes, and quadrants as well as teeth included in permanent dentition. Children from six months to twelve years of age may have no permanent teeth at all or a combination of permanent and primary teeth. In this lesson we will learn about the stages of primary and mixed dentition.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Terms and Definitions

A. Deciduous (dē-sĭ´-dū-ŭs) - that which will be shed

B. Deciduous teeth - the first dentition of humans or animals that will be shed upon eruption of permanent dentition

C. Eruption (ē-rŭp´-shŭn) - the migration of a tooth from its area of formation in the alveolar process of the maxillae or mandible into the oral cavity

D. Exfoliation (x-fō-lē-ā-shŭn) - shedding; physiologic loss of the primary dentition

E. Nonsuccedaneous teeth - permanent teeth which do not replace a primary predecessor, (permanent molars are the succedaneous teeth)

F. Permanent teeth - the second set of teeth; designed to last the lifetime of an individual

G. Primary - first in order in any series

H. Primary teeth - the initial dentition of twenty deciduous teeth that will be shed upon eruption of the permanent dentition

I. Resorption (rē-sōrp´-shŭn) - loss of substance by physiologic or pathologic means

J. Shedding - the normal physiologic loss of the primary dentition through root resorption and exfoliation

K. Succedaneous (sŭ-sĕ-dān´-ē-ŭs) - to follow after or substitute for that which has gone before

L. Succedaneous teeth - permanent teeth which succeed primary predecessors in the dental arches

II. General Characteristics of Primary Dentition (HO 1)

A. Appearance compared to permanent teeth

1. Crowns of primary teeth are usually milk white in comparison to permanent teeth.

2. Primary teeth usually appear short and squat as compared to permanent teeth.

3. Primary teeth often appear to have large spaces between them, especially in anterior regions.

a. This spacing is considered desirable. (II-1)

b. Primary teeth that erupt too closely together may indicate that there might be insufficient room in the arch to accommodate the larger permanent teeth.

B. Terminology associated with primary teeth

1. Primary means "first," as in the first teeth to erupt.

2. Primary teeth can be referred to as "deciduous" teeth.

a. Deciduous means that these teeth will be shed as the permanent teeth erupt.

b. The descriptions "primary" or "deciduous" are used interchangeably in dentistry.

c. Terms such as "baby teeth" or "milk teeth" are sometimes used in reference to primary dentition, but are not considered proper terminology.

3. When identifying a primary tooth, the word primary or deciduous must precede the name of the tooth, or it will be assumed that you are referring to permanent dentition.

III. Names of Primary Teeth (HO 2)

A. Incisors

1. Maxillary right deciduous or primary central incisor

2. Maxillary left deciduous or primary central incisor

3. Mandibular right deciduous or primary central incisor

4. Mandibular left deciduous or primary central incisor

5. Maxillary right deciduous or primary lateral incisor

6. Maxillary left deciduous or primary lateral incisor

7. Mandibular right deciduous or primary lateral incisor

8. Mandibular left deciduous or primary lateral incisor

B. Cuspids

1. Maxillary right deciduous or primary cuspid

2. Maxillary left deciduous or primary cuspid

3. Mandibular right deciduous or primary cuspid

4. Mandibular left deciduous or primary cuspid

C. Molars

1. Maxillary right deciduous or primary first molar

2. Maxillary left deciduous or primary first molar

3. Maxillary right deciduous or primary second molar

4. Maxillary left deciduous or primary second molar

5. Mandibular right deciduous or primary first molar

6. Mandibular left deciduous or primary first molar

7. Mandibular right deciduous or primary second molar

8. Mandibular left deciduous or primary second molar

9. Take note that there are NO premolars (bicuspids) in complete primary dentition.

    a. Permanent premolars (bicuspids) replace primary molars.

b. All permanent molars erupt behind the primary molars.

IV. Stages of Mixed Dentition (HO 3)

A. Terminology associated with mixed dentition

1. Mixed dentition means a mixture of primary and permanent teeth.

2. Eruption is the term which describes any tooth, primary or permanent, appearing through the alveolar ridge and taking its place in the dental arch.

3. Shedding or exfoliation is the process of losing a primary tooth in order to create room for a permanent tooth.

4. A permanent tooth is a tooth which, once it erupts, is designed to remain in the dental arch for a lifetime.

5. Root resorption - process in which the roots of primary teeth dissolve and are absorbed by the body as they are shed; resorption of the roots (II-2)

6. Permanent teeth which take the place of primary teeth are known as succedaneous teeth. Permanent molars are nonsuccedaneous teeth as they erupt behind all primary teeth.

7. Permanent teeth that never form within the alveolar process are said to be "congenitally missing."

B. Mixed dentition

1. Mixed dentition generally begins between the ages of 5 1/2 and 7 1/2 years of age.

a. Mandibular teeth are usually shed a few months before maxillary teeth.

b. It usually takes a few months for the permanent tooth to fully erupt after its primary counterpart has been shed.

2. The first primary teeth to shed are usually the mandibular central incisors.

3. The first succedaneous teeth to erupt are usually the mandibular permanent central incisors between the age of six and seven.

4. The first nonsuccedaneous teeth to erupt are usually the mandibular permanent first molars between the ages six and seven.

5. The period of mixed dentition usually lasts from the age of six to the age of eleven or twelve.

    a. Some children may be up to a year ahead of or behind this schedule.

    b. If there is concern that a permanent tooth may be congenitally missing, a radiograph can be taken to determine if the tooth is forming within the alveolar process.

V. Eruption and Shedding Dates of Primary Dentition (HO 4, HO 5)

A. Maxillary deciduous central incisors

1. Eruption - eight to twelve months

2. Shedding - six to seven years

B. Mandibular deciduous central incisors

1. Eruption - eight to twelve months

2. Shedding - six to seven years

C. Maxillary deciduous lateral incisors

1. Eruption - nine to thirteen months

2. Shedding - seven to eight years

D. Mandibular deciduous lateral incisors

1. Eruption - ten to sixteen months

2. Shedding - seven to eight years

E. Maxillary deciduous cuspids

1. Eruption - sixteen to twenty-two months

2. Shedding - ten to twelve years

F. Mandibular deciduous cuspids

   1. Eruption - seventeen to twenty-three months
   2. Shedding - nine to eleven years

G. Maxillary deciduous first molars

   1. Eruption - thirteen to nineteen months
   2. Shedding - nine to eleven years

H. Mandibular deciduous first molars

   1. Eruption - fourteen to eighteen months
   2. Shedding - nine to eleven years

I. Maxillary deciduous second molars

   1. Eruption - twenty-five to thirty-three months
   2. Shedding - ten to twelve years

J. Mandibular deciduous second molars

   1. Eruption - twenty-three to thirty-one months
   2. Shedding - ten to twelve years

VI. Eruption Dates of Permanent Teeth

   A. Maxillary central incisors - seven to eight years
   B. Mandibular central incisors - six to seven years
   C. Maxillary lateral incisors - eight to nine years
   D. Mandibular lateral incisors - seven to eight years
   E. Maxillary cuspids - eleven to twelve years
   F. Mandibular cuspids - nine to ten years
   G. Maxillary first premolars (bicuspids) - ten to eleven years
   H. Mandibular first premolars (bicuspids) - ten to twelve years
   I. Maxillary second premolars (bicuspids) - ten to twelve years

J. Mandibular second premolars (bicuspids) - eleven to twelve years

K. Maxillary first molars - six to seven years

L. Mandibular first molars - six to seven years

M. Maxillary second molars - twelve to thirteen years

N. Mandibular second molars - eleven to thirteen years

O. Maxillary third molars - seventeen to twenty-one years

P. Mandibular third molars - seventeen to twenty-one years

VII. Summary

A. Terms and definitions

B. General characteristics of primary dentition

C. Names of primary teeth

D. Stages of mixed dentition

E. Eruption and shedding dates of primary dentition

F. Eruption dates of permanent teeth

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. Why do you think primary teeth appear to be spaced more widely apart as a child grows older?

2. You may have noticed that when primary teeth are shed, they appear to have no roots. What do you think would happen if the roots did not resorb?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Complete Assignment Sheet 1: "Primary Dentition."

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

1. Define the following terms

   a. Primary tooth -

   b. Deciduous tooth -

2. Describe the process of root resorption and exfoliation and explain the purpose of this process.

For each of the following, select the one, best answer and place the corresponding letter in the blank.

____ 3. Which of the following best describes mixed dentition?

   a. A mixture of anterior and posterior teeth
   b. A mixture of primary and deciduous teeth
   c. A mixture of succedaneous and nonsuccedaneous teeth
   d. A mixture of primary and permanent teeth

____ 4. Which of the following would be considered a succedaneous tooth?

   a. Maxillary right deciduous first molar
   b. Mandibular left second premolar or bicuspid
   c. Maxillary left third molar
   d. Mandibular right second molar

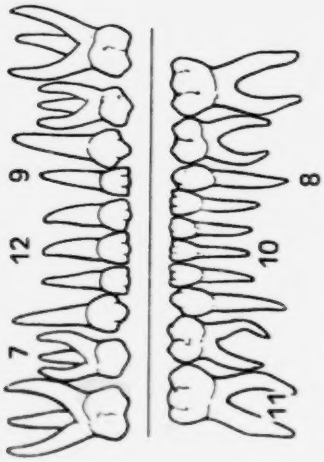
____ 5. Mixed dentition begins between the ages of:

   a. 10 and 12
   b. 3 and 5
   c. 5 and 7
   d. 18 and 19

____ 6. Mixed dentition ends between the ages of:

a. 6 and 7
b. 11 and 12
c. 8 and 10
d. 21 and 22

Identify the numbered deciduous teeth shown in the illustration below.



7. ______________________________

8. ______________________________

9. ______________________________

10. ______________________________

11. ______________________________

12. ______________________________

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

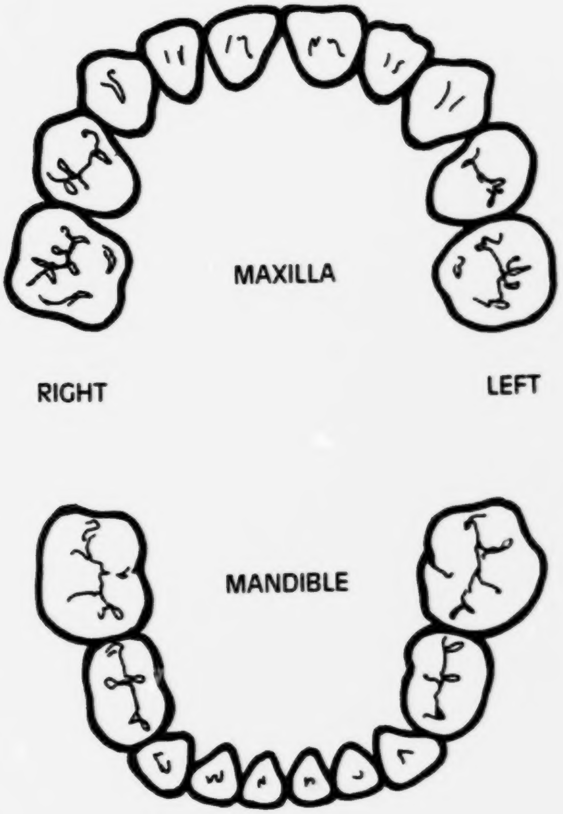
UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

ANSWERS TO EVALUATION ITEMS:

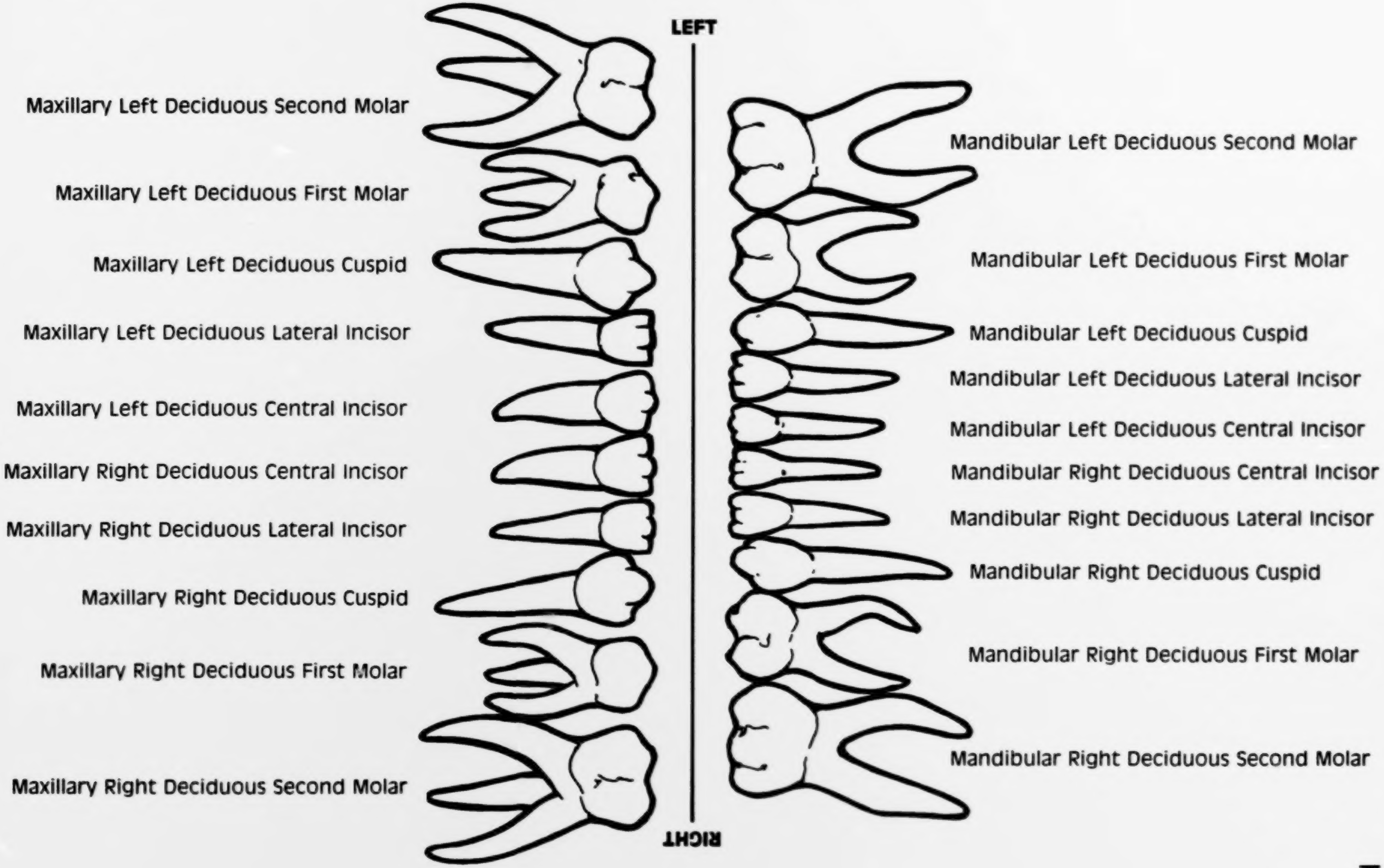
1. a. A primary tooth is any one of the first teeth to erupt in the dental arches to form the initial dentition.
   b. Deciduous tooth is any tooth that will be shed in order for a permanent tooth to erupt. The terms "primary" and "deciduous" are used interchangeably in dentistry.
2. Root resorption is the process by which the roots of primary teeth dissolve and are absorbed by the body. Exfoliation is the shedding of primary teeth. The purpose of this process is to make room in the dental arches for the eruption of permanent teeth.
3. d
4. b
5. c
6. b
7. Maxillary right deciduous or primary first molar
8. Mandibular left deciduous or primary canine or cuspid
9. Maxillary left deciduous or primary lateral incisor
10. Mandibular right deciduous or primary central incisor
11. Mandibular right deciduous or primary second molar
12. Maxillary right deciduous or primary central incisor

HO 1

Primary Dentition


MAXILLA
RIGHT
LEFT
MANDIBLE

Names of Primary Teeth

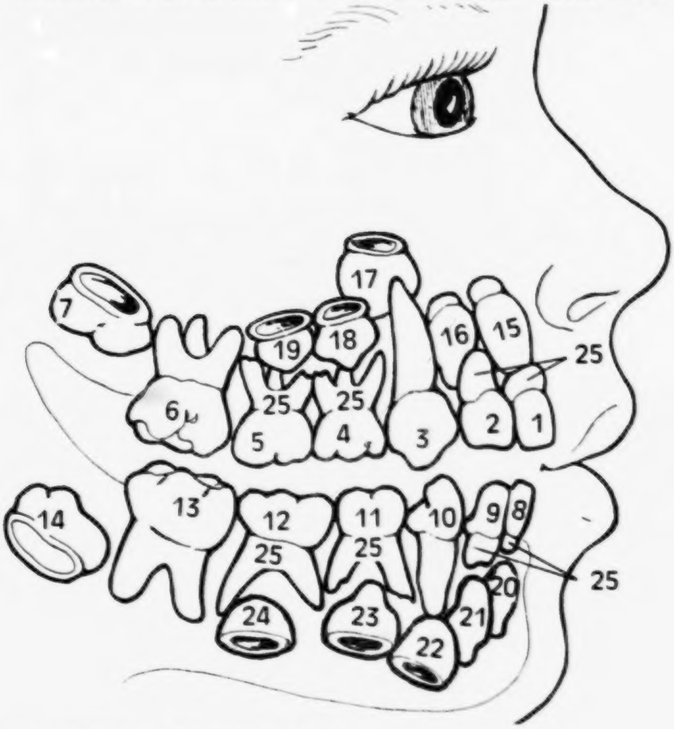

LEFT
RIGHT
Maxillary Left Deciduous Second Molar
Maxillary Left Deciduous First Molar
Maxillary Left Deciduous Cuspid
Maxillary Left Deciduous Lateral Incisor
Maxillary Left Deciduous Central Incisor
Maxillary Right Deciduous Central Incisor
Maxillary Right Deciduous Lateral Incisor
Maxillary Right Deciduous Cuspid
Maxillary Right Deciduous First Molar
Maxillary Right Deciduous Second Molar
Mandibular Left Deciduous Second Molar
Mandibular Left Deciduous First Molar
Mandibular Left Deciduous Cuspid
Mandibular Left Deciduous Lateral Incisor
Mandibular Left Deciduous Central Incisor
Mandibular Right Deciduous Central Incisor
Mandibular Right Deciduous Lateral Incisor
Mandibular Right Deciduous Cuspid
Mandibular Right Deciduous First Molar
Mandibular Right Deciduous Second Molar

The word "primary" can be substituted for "deciduous."

There are no premolars in complete deciduous dentition

HO 2

Mixed Dentition in a Six-Year-Old Child



1. Maxillary Right Deciduous Central Incisor
2. Maxillary Right Deciduous Lateral Incisor
3. Maxillary Right Deciduous Cuspid
4. Maxillary Right Deciduous First Molar
5. Maxillary Right Deciduous Second Molar
6. Maxillary Right Permanent First Molar-Erupted (Nonsuccedaneous)
7. Maxillary Right Permanent Second Molar-Unerupted (Nonsuccedaneous)
8. Mandibular Right Deciduous Central Incisor
9. Mandibular Right Deciduous Lateral Incisor
10. Mandibular Right Deciduous Cuspid
11. Mandibular Right Deciduous First Molar
12. Mandibular Right Deciduous Second Molar
13. Mandibular Right Permanent First Molar-Erupted (Nonsuccedaneous)

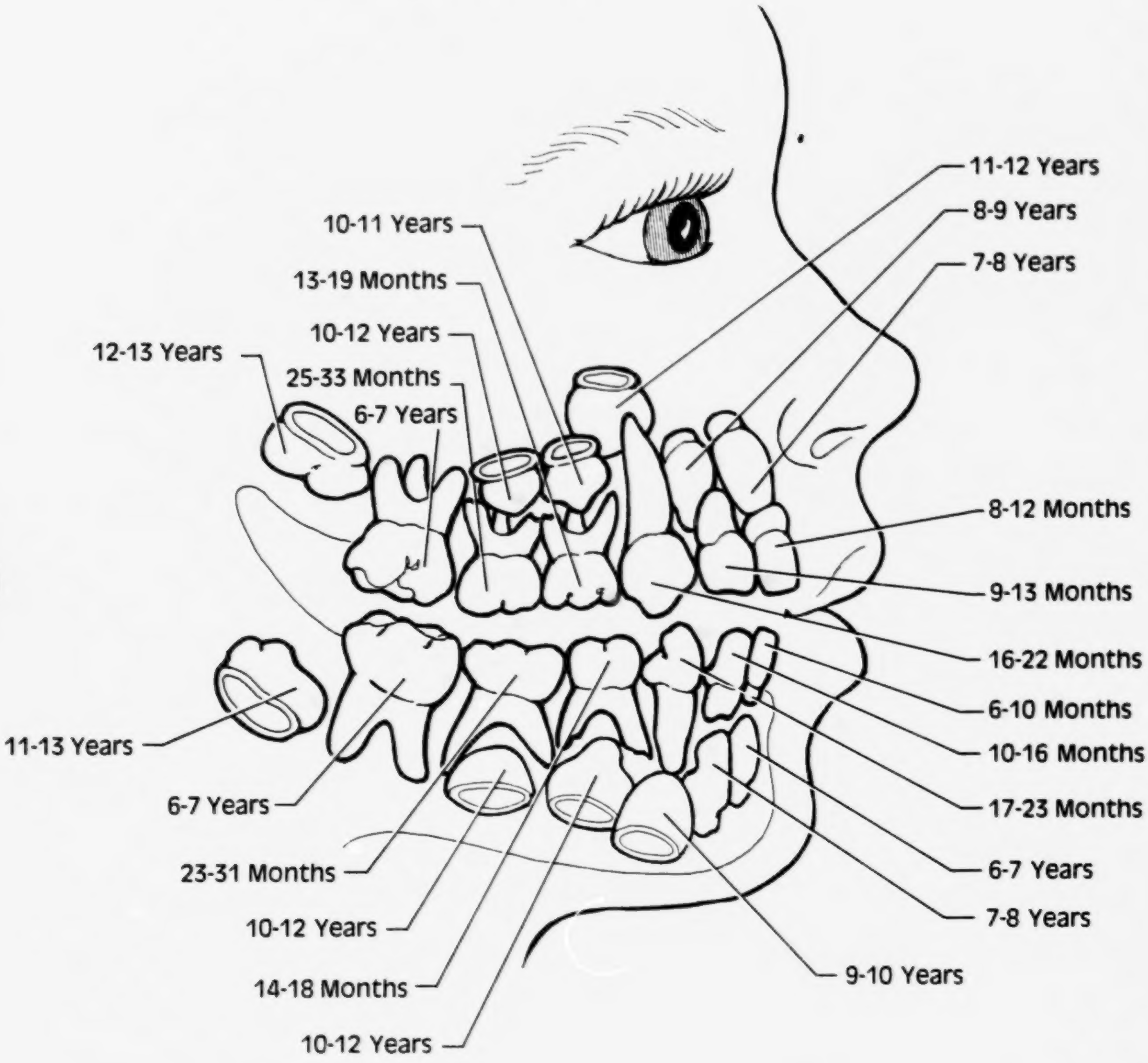
UNERUPTED TEETH

14. Mandibular Right Permanent Second Molar (Nonsuccedaneous)
15. Maxillary Right Permanent Central Incisor (Succedaneous)
16. Maxillary Right Permanent Lateral Incisor (Succedaneous)
17. Maxillary Right Permanent Cuspid (Succedaneous)
18. Maxillary Right Permanent First Premolar (Succedaneous)
19. Maxillary Right Permanent Second Premolar (Succedaneous)
20. Mandibular Right Permanent Central Incisor (Succedaneous)
21. Mandibular Right Permanent Lateral Incisor (Succedaneous)
22. Mandibular Right Permanent Cuspid (Succedaneous)
23. Mandibular Right Permanent First Premolar (Succedaneous)
24. Mandibular Right Permanent Second Premolar (Succedaneous)

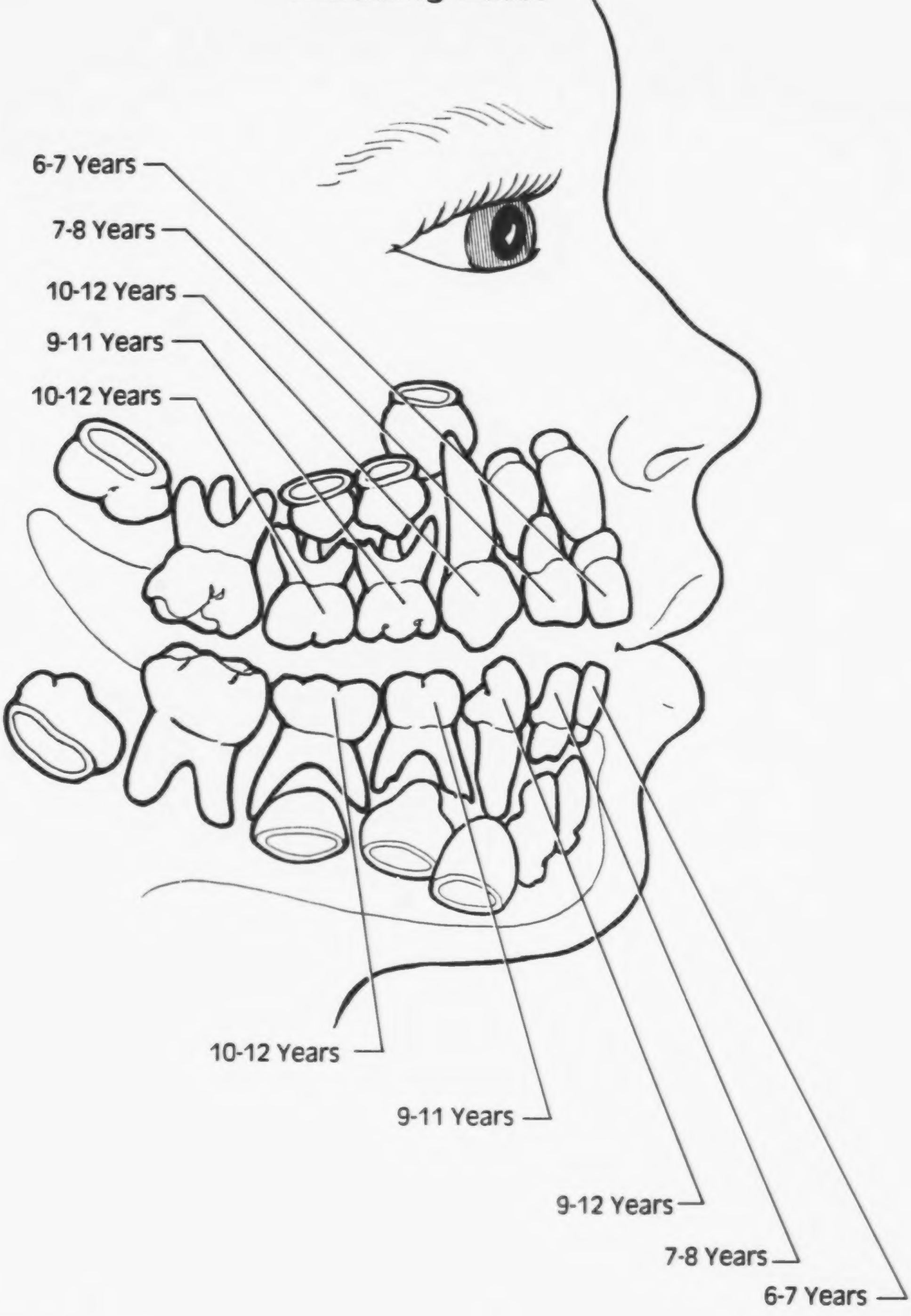
25. Deciduous Roots Undergoing Resorption

Other Nonsuccedaneous Teeth are the Permanent Third Molars-Not Shown

Eruption Dates


10-11 Years
13-19 Months
10-12 Years
12-13 Years
25-33 Months
6-7 Years
11-13 Years
6-7 Years
23-31 Months
10-12 Years
14-18 Months
10-12 Years
11-12 Years
8-9 Years
7-8 Years
8-12 Months
9-13 Months
16-22 Months
6-10 Months
10-16 Months
17-23 Months
6-7 Years
7-8 Years
9-10 Years

Shedding Dates


6-7 Years
7-8 Years
10-12 Years
9-11 Years
10-12 Years
10-12 Years
9-11 Years
9-12 Years
7-8 Years
6-7 Years

Shedding Can Also Be Described As Exfoliation

Assignment Sheet 1
Primary Dentition

Name: ____________________

Date: ____________________

Directions: Use information from the lesson outline to complete this assignment sheet.

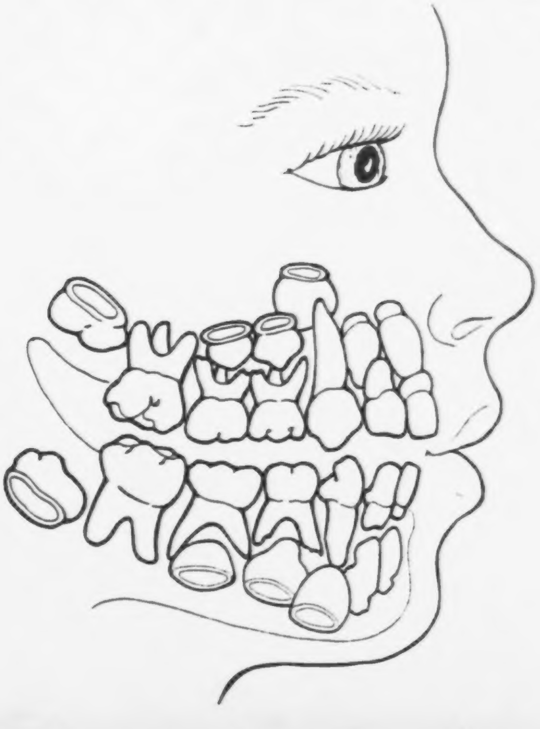
1. The terms "primary" and "deciduous" are used interchangeably in dentistry. What does the term "primary" mean when it is used in reference to dentition?

2. What does the term "deciduous" mean when used in reference to dentition?

3. Define exfoliation: ____________________

4. Succedaneous teeth are those teeth that replace primary teeth in the dental arch. Name the nonsuccedaneous teeth.

5. If nonsuccedaneous teeth DO NOT replace primary teeth in the dental arch, where do nonsuccedaneous teeth erupt?



6. Why do the roots of primary teeth resorb near their shedding dates?

7. When naming a primary tooth, it is essential to use the description, "primary" or "deciduous" before the name of the tooth. Why is this necessary?

8. Code the illustration to the left in the following manner:
   1 - Succedaneous Teeth
   2 - Nonsuccedaneous Teeth
   3 - Primary Teeth

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-4 OR DEMONSTRATION:

SURFACES OF TEETH
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Given a description, identify various tooth surfaces.
2. Identify various tooth surfaces on a diagram.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Tooth Surfaces
2. HO 2: Facial Surfaces
3. HO 3: Surfaces of the Maxillary Teeth
4. HO 4: Surfaces of the Mandibular Teeth
5. AS 1: Identifying Tooth Surfaces

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. Boucher's Clinical Dental Terminology. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

Now that we've learned to identify permanent and primary teeth according to their function and the arch in which they're situated, we are ready to learn the five surfaces of each tooth. When a dentist repairs a decayed or broken tooth, he or she may only need to work on one surface of a tooth while leaving the other surfaces intact.

It is important for the dental aide to be aware of each surface and its location on a particular tooth in order to be an effective member of the dental health team.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Terms and Definitions

A. Buccal (búck-ül) - pertaining to or adjacent to the cheek; the facial surface of posterior teeth; the cheek side of a posterior tooth

B. Distal - the interproximal surface of a tooth facing away from the midline

C. Incisal (in-síz-ul) - relating to the cutting edge of anterior teeth, the incisors or cuspids

D. Interproximal - between the proximal surfaces of adjoining teeth

E. Labial (lä-bē-ul) - of or pertaining to the lips; toward the lips; the facial surface of an anterior tooth

F. Mesial (mē-zē-ul) - pertaining to the midsagittal plane; specifically the surface of a tooth facing the midline

G. Occlusal - pertaining to the masticating surfaces of posterior teeth

H. Palatal (pal-ä-tul) - relating to the palate; the roof of the mouth

I. Proximal - the surface of a tooth that is nearest the adjacent tooth; proximal or "interproximal" surfaces are mesial and distal; depending on whether the proximal area in question faces toward or away from the midline between central incisors

II. Surfaces of Teeth

A. Purpose of dividing teeth into surfaces

1. Only one small area of a tooth may need to be repaired.

2. Specific areas of each tooth have proper names so that there is no confusion as to the exact location for a procedure.

3. Each tooth is divided into five surfaces that cannot be confused with another area of a particular tooth.

B. General description of surfaces (HO 1)

1. Interproximal - surfaces between teeth

2. Occlusal/incisal - biting surfaces

3. Facial - surfaces facing the lips and cheek or the palate and tongue

III. Interproximal Surfaces

A. Interproximal means "between." There are two interproximal surfaces on each tooth.

B. Mesial surface

1. The mesial surface is the side of the tooth that faces the midline.

2. The mesial surface of one tooth will always contact the distal surface, (away from the midline) on the tooth next to it, except in the case of central incisors.

a. Since the midline is located between the central incisors, the mesial surfaces of central incisors contact each other.

b. Remember that the midline divides each arch into right and left halves.

C. Distal surface

1. The distal surface is the side of the tooth that faces away from the midline.

2. The distal surface of one tooth will always contact the mesial surface of the tooth next to it, except in the case of third molars.

IV. Biting Surfaces

A. The biting surface is the surface of a tooth which is used for chewing or cutting.

B. Occlusal surface

1. The occlusal surface is the surface of a posterior tooth which is used for chewing.

2. During mastication, (the act of chewing) the occlusal surface of one posterior tooth will contact the occlusal surface of its "antagonist," (opposite tooth in the opposing arch) in order to pulverize food.

C. Incisal edge

1. The incisal edge is the cutting edge of an anterior tooth.

2. Incisal edges are used to cut and tear food into a suitable size for the posterior teeth to pulverize. (II-1)

V. Facial Surfaces

A. The facial surface is the surface of a tooth which faces the lips or cheeks. (HO 2)

B. Labial surface of anterior teeth

1. The labial surface is the surface of an anterior tooth which faces the lips.

2. The term "labial" refers to the lips. (II-2)

C. Buccal surface of posterior teeth

1. The buccal surface is the surface of a posterior tooth which faces the cheeks.

2. The term "buccal" refers to the buccinator muscle which helps to form the walls of the cheeks.

VI. Lingual Surfaces

A. The lingual surface is the surface of a tooth which faces the tongue or the palate.

1. Palatal surfaces (HO 3)

a. Palatal surfaces are the surfaces of maxillary teeth which face the roof of the mouth (palate).

b. When a tooth surface is described as "palatal," one can only be referring to a maxillary tooth.

2. Lingual surfaces (HO 4)

   a. The lingual surface of a mandibular tooth is referred to as the "lingual" surface because this surface faces the tongue.

   b. In dentistry, the term "lingual" always pertains to the tongue.

   c. Although it is unacceptable to describe the lingual surface of mandibular teeth as "palatal," many practitioners will use the term "lingual" in reference to maxillary or mandibular teeth.

VII. Summary and Conclusion

A. Terms and definitions

B. Surfaces of teeth

C. Interproximal surfaces

D. Biting surfaces

E. Facial surfaces

F. Lingual surfaces

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. What would happen if we tried to chew an entire sandwich without biting pieces from it?
2. What tooth surface is most visible when a person smiles or laughs?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

For each of the following, select the one, best answer and place the corresponding letter in the blank.

____ 1. The surface of an anterior tooth that faces the lips is the:

a. Buccal surface
b. Mesial surface
c. Incisal surface
d. Labial surface

____ 2. The biting surface of a posterior tooth is the:

a. Occlusal surface
b. Incisal edge
c. Buccal surface
d. Facial surface

____ 3. The surface of a maxillary tooth that faces the roof of the mouth can be called the:

a. Palatal surface
b. Labial surface
c. Lingual surface
d. a or c

____ 4. The surface of a posterior tooth that faces the cheeks is the:

a. Labial surface
b. Occlusal surface
c. Mesial surface
d. Buccal surface

____ 5. The cutting surface of an anterior tooth is the:

a. Incisal edge
b. Palatal surface
c. Labial surface
d. Lingual surface

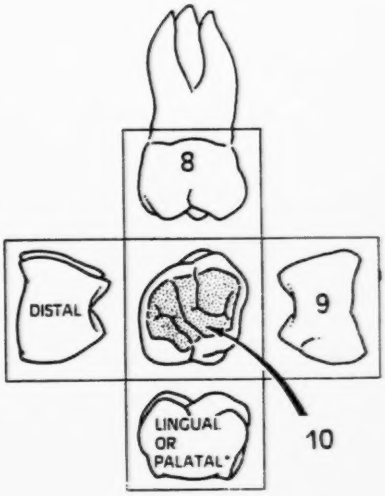
____ 6. The surface of a posterior tooth that faces the tongue is the:

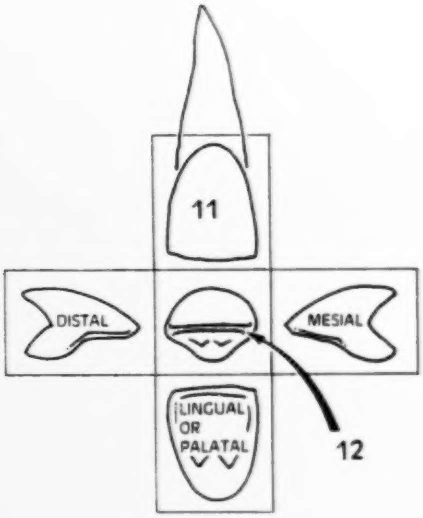
- a. Palatal surface
- b. Distal surface
- c. Lingual surface
- d. a or c

____ 7. The surface of a tooth that faces the midline is the:

- a. Distal surface
- b. Mesial surface
- c. Buccal surface
- d. Occlusal surface

Identify the numbered surfaces on the teeth shown below.


8
DISTAL
9
LINGUAL OR PALATAL
10


11
DISTAL
MESIAL
LINGUAL OR PALATAL
12

8. ______________________________

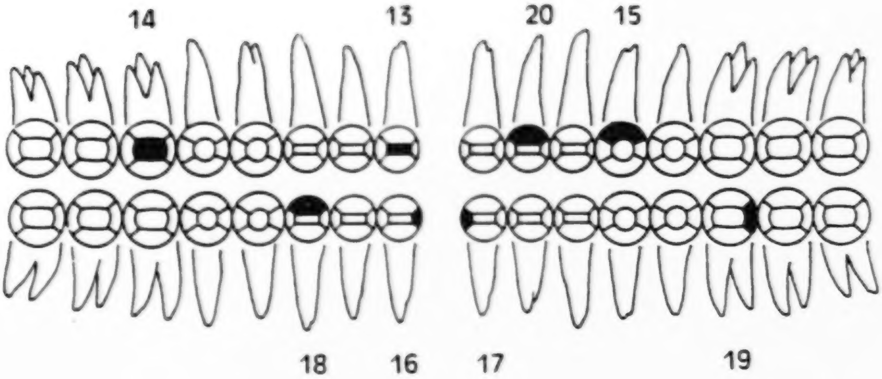
9. ______________________________

10. ______________________________

11. ______________________________

12. ______________________________

Identify the darkened tooth surfaces numbered below.


14
13
20
15
18
16
17
19

13. ______________________

14. ______________________

15. ______________________

16. ______________________

17. ______________________

18. ______________________

19. ______________________

20. ______________________

LESSON PLAN: 4

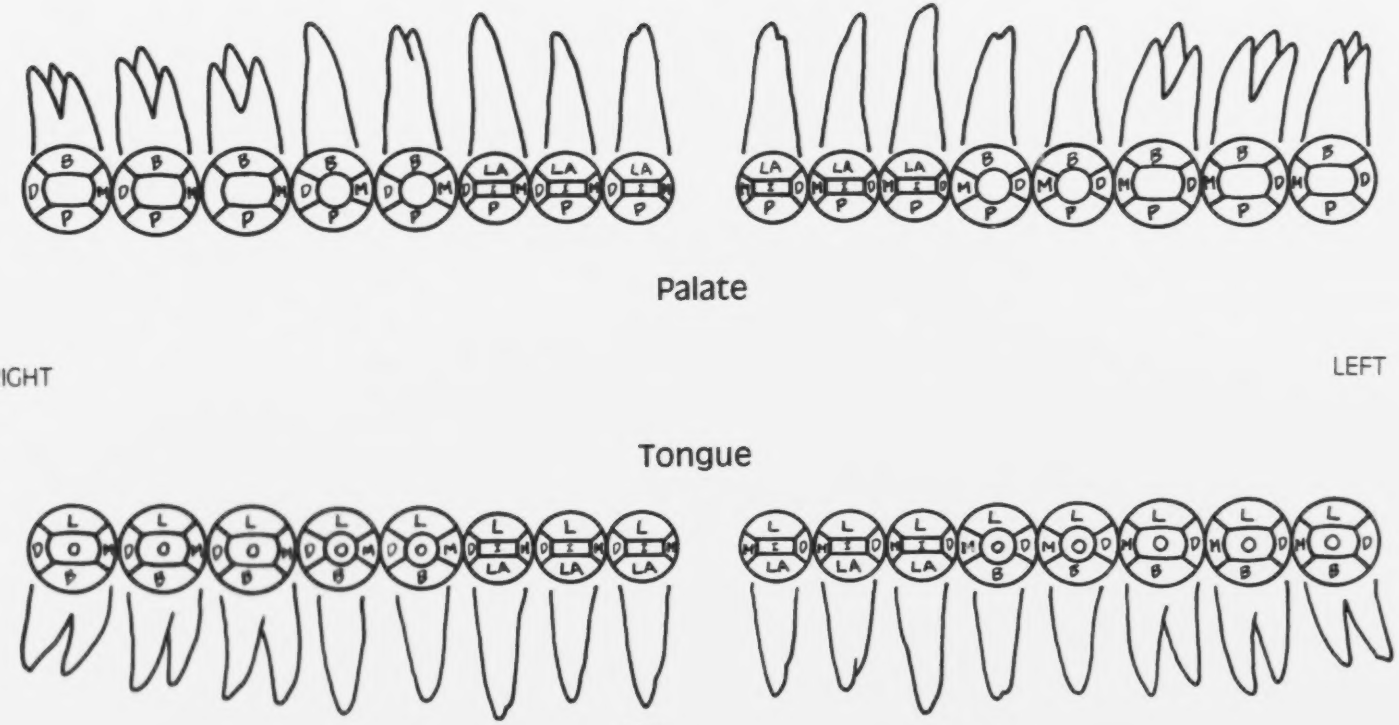
COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

ANSWERS TO EVALUATION ITEMS:

1. d
2. a
3. a
4. d
5. a
6. c
7. b
8. Buccal surface
9. Mesial surface
10. Occlusal surface
11. Labial surface
12. Incisal edge
13. Incisal edge
14. Occlusal surface
15. Buccal surface
16. Mesial surface
17. Mesial surface
18. Lingual surface
19. Distal surface
20. Labial surface

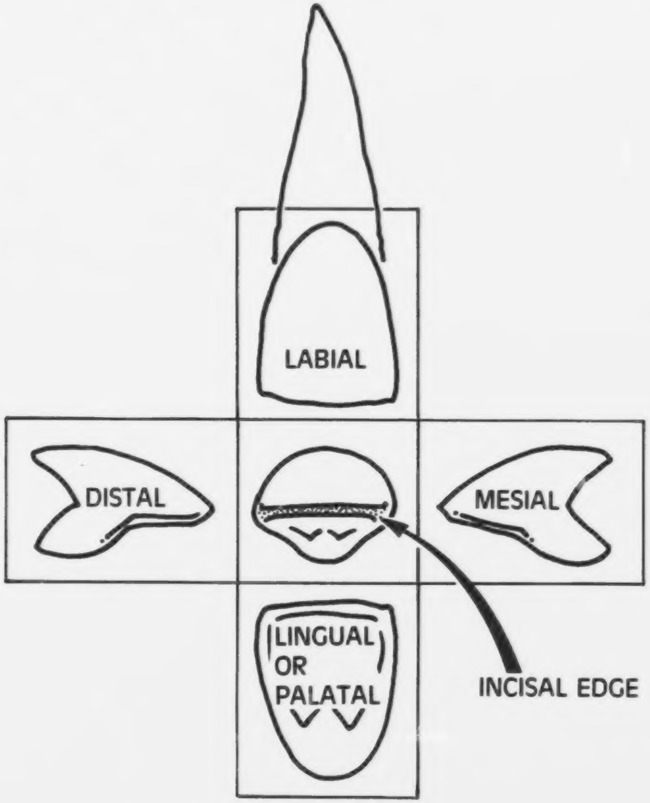
Tooth Surfaces


Palate
RIGHT
LEFT
Tongue
B
P
D
M
LA
I
L
O

KEY:
I - Incisal
O - Occlusal
M - Mesial
D - Distal
P - Palatal
L - Lingual
LA - Labial
B - Buccal

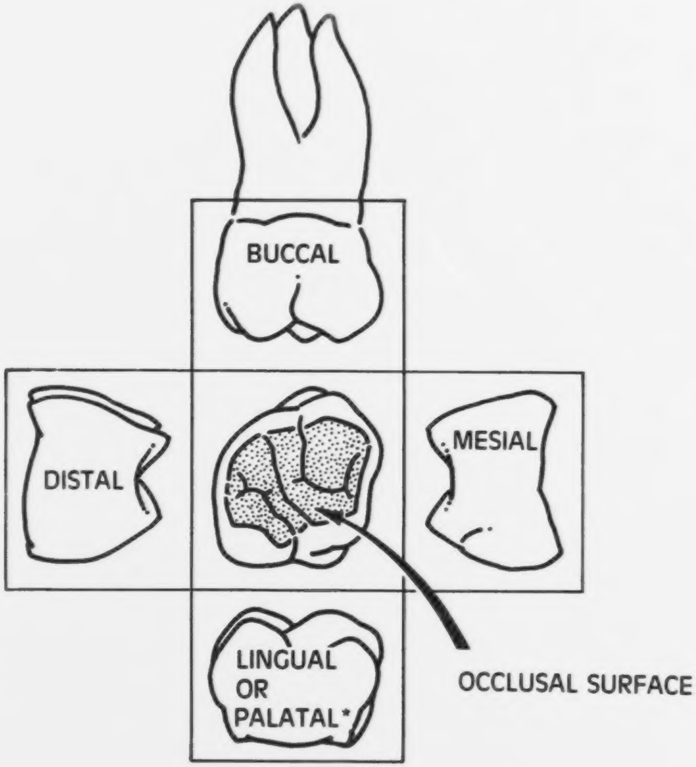
HO 1

Surfaces of Anterior Teeth


LABIAL
DISTAL
MESIAL
LINGUAL
OR
PALATAL
INCISAL EDGE

Maxillary Right Permanent Central Incisor

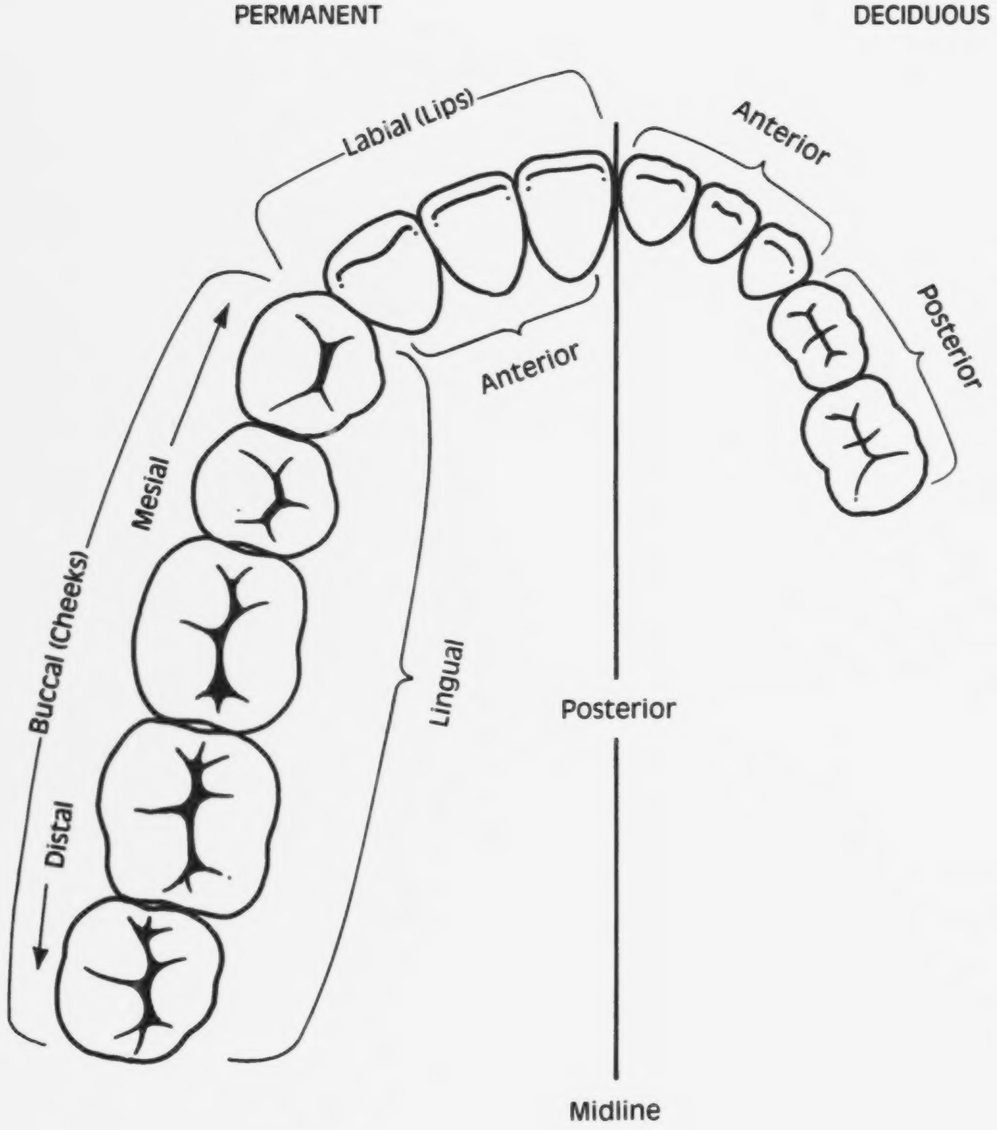
Surfaces of Posterior Teeth


BUCCAL
DISTAL
MESIAL
LINGUAL
OR
PALATAL*
OCCLUSAL SURFACE

Maxillary Right Permanent First Molar

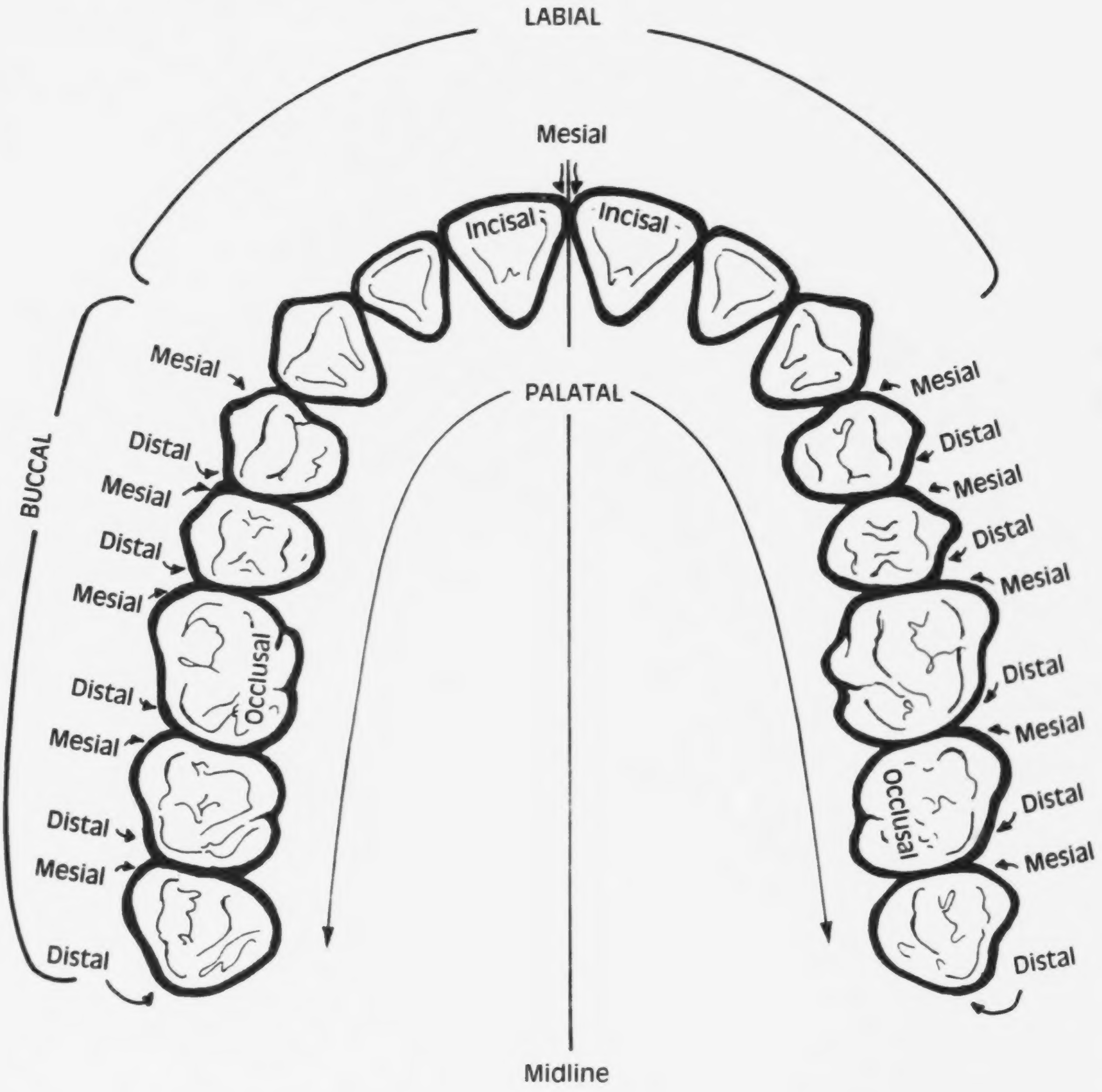
*Remember that the lingual surface of a MANDIBULAR tooth is NEVER described as the palatal surface.

Facial Surfaces

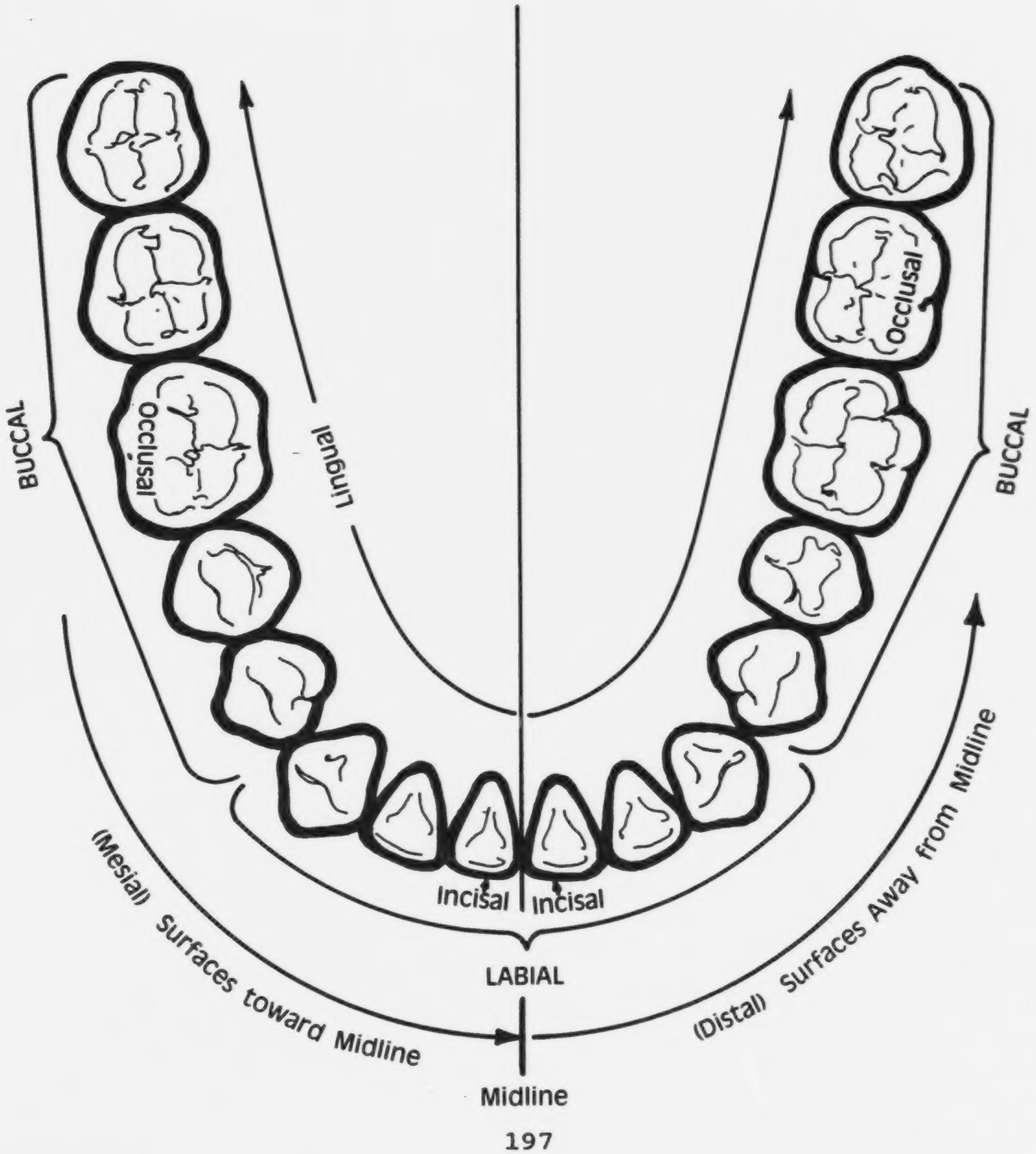

PERMANENT
DECIDUOUS
Labial (Lips)
Anterior
Anterior
Posterior
Mesial
Buccal (Cheeks)
Distal
Lingual
Posterior
Midline

Remember that the first five teeth in each side of the permanent arch replace the five deciduous teeth which precede them.

Surfaces of the Maxillary Teeth


LABIAL
Mesial
Incisal
Incisal
PALATAL
BUCCAL
Mesial
Distal
Mesial
Distal
Mesial
Occlusal
Distal
Mesial
Distal
Mesial
Distal
Mesial
Distal
Mesial
Distal
Mesial
Distal
Mesial
Occlusal
Distal
Mesial
Distal
Midline

Surfaces of the Mandibular Teeth

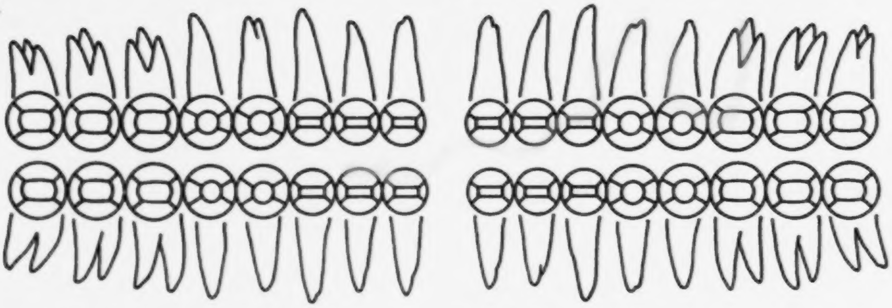

BUCCAL
Occlusal
Lingual
Occlusal
BUCCAL
Incisal
Incisal
LABIAL
(Mesial) Surfaces toward Midline
(Distal) Surfaces Away from Midline
Midline

Assignment Sheet 1
Identifying Tooth Surfaces

Name: ______________________________

Date: ______________________________

Directions: On the diagram below, shade in with a pencil the tooth surfaces indicated. Be sure that you place the number of the questions your are answering below the tooth if it is maxillary and above it if it is mandibular.



1. Shade in the lingual surface of the mandibular left lateral incisor.
2. Shade in the buccal surface of the maxillary right second premolar.
3. Shade in the palatal surface of the maxillary right cuspid.
4. Shade in the incisal surface of the mandibular left central incisor.
5. Shade in the labial surface of maxillary left lateral incisor.
6. Shade in the lingual surface of the mandibular right first molar.
7. Shade in the occlusal surface of the maxillary left first premolar.
8. Shade in the mesial surface of the maxillary right second molar.
9. Shade in the distal surface of the mandibular left third molar.
10. Describe the difference between a lingual and a palatal surface.

    ____

    ____

11. Explain why the mesial surfaces of central incisors are the only mesial surfaces in the mouth that contact one another.

    ____

    ____

12. Describe the difference between a buccal and a labial surface.

    ____

    ____

13. Define the incisal surface.

    ____

14. Define the occlusal surface.

    ____

15. Define the interproximal surface.

    ____

16. Name and describe the interproximal surfaces.

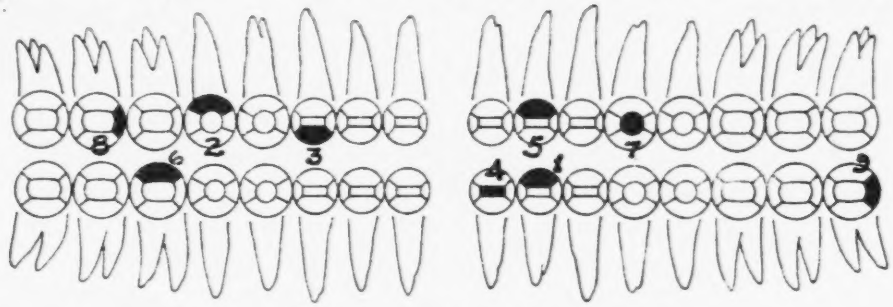
    ____

Answers To Assignment Sheet 1
Identifying Tooth Surfaces

Name: ______________________

Date: ______________________

Directions: On the diagram below, shade in with a pencil the tooth surfaces indicated. Be sure that you place the number of the questions your are answering below the tooth if it is maxillary and above it if it is mandibular.



1. Shade in the lingual surface of the mandibular left lateral incisor.
2. Shade in the buccal surface of the maxillary right second premolar.
3. Shade in the palatal surface of the maxillary right cuspid.
4. Shade in the incisal surface of the mandibular left central incisor.
5. Shade in the labial surface of maxillary left lateral incisor.
6. Shade in the lingual surface of the mandibular right first molar.
7. Shade in the occlusal surface of the maxillary left first premolar.
8. Shade in the mesial surface of the maxillary right second molar.
9. Shade in the distal surface of the mandibular left third molar.
10. Describe the difference between a lingual and a palatal surface.
    Palatal Surfaces are the surface of Maxillary teeth that face the palate while Lingual are the surface of Mandibular teeth facing the tongue.
11. Explain why the mesial surfaces of central incisors are the only mesial surfaces in the mouth that contact one another.
    The midline is located between central incisors so the right and left central incisors will have mesial surfaces that contact one another; mesial-toward the midline.
12. Describe the difference between a buccal and a labial surface.
    Buccal Surfaces are the surfaces of posterior teeth that face the cheek, while labial are the surfaces of anterior teeth that face the lips.
13. Define the incisal surface.
    The incisal surface is the cutting edge of an anterior tooth.
14. Define the occlusal surface.
    The occlusal surface is the chewing surface of a posterior tooth.
15. Define the interproximal surface.
    An interproximal surface is the side of a tooth, either facing toward or away from the midline.
16. Name and describe the interproximal surfaces.
    Mesial-side of a tooth facing to the midline; Distal-side of a tooth facing away from the midline.

LESSON PLAN: 5

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-5 OR DEMONSTRATION:

NOTATION SYSTEMS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Identify specific permanent and primary teeth according to the universal notation system.
2. Identify specific permanent and primary teeth according to the Palmer notation system.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Universal Notation System
2. HO 2: Universal Chart
3. HO 3: Palmer Notation System
4. HO 4: Palmer Chart
5. AS 1: Understanding Notation Systems

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. Boucher's Clinical Dental Terminology. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

When referring to a specific tooth in the dental office, it can be tedious and time consuming to write out the entire proper name for that particular tooth on a patient's chart. Notation systems have been developed to cut down on wasted time and possible confusion. In this lesson, you will learn to identify each permanent and primary tooth according to two widely used notation systems.

LESSON PLAN: 5

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Introduction to Notation Systems

   A. Purpose of using a notation system

      1. Saves time while charting and uses less space on the patient's chart

      2. It is more convenient to refer to a tooth as "number 14" than to say "the maxillary left first molar."

      3. Reduces the risk of charting or verbalizing the wrong tooth, quadrant or arch as there is only ONE "number 14" or "r" or "lower left six"

   B. Notation systems

      1. Universal notation system - uses consecutive numbers or letters to identify teeth

      2. Palmer notation system - uses letters or numbers divided into quadrants for simple identification

II. Universal Notation System (HO 1, HO 2)

   A. Consecutive numbering system from 1 to 32

   B. The maxillary right third molar is 1.

   C. The maxillary left third molar is 16.

   D. The mandibular left third molar is 17.

   E. The mandibular right third molar is 32.

      1. The permanent teeth are numbered beginning at the upper right third molar around the maxillary arch, then dropping to the mandibular left third molar and continuing around the mandibular arch to the mandibular right third molar.

2. If a tooth is missing or unerupted, **DO NOT** assign that tooth number to the next tooth in line. For example, if 12 has been extracted, 13 would not be counted as 12. It would be noted on the patient's chart that 12 is not present in the arch.

F. Universal notation system for deciduous dentition

1. Consecutive lettering system from "a" to "t"

2. The maxillary right deciduous second molar is "a."

3. The maxillary left deciduous second molar is "j."

4. The mandibular left deciduous second molar is "k."

5. The mandibular right deciduous second molar is "t."

   a. The deciduous teeth are lettered, usually in lower-case letters, beginning at the maxillary right deciduous second molar around the maxillary arch, then dropping to the mandibular left deciduous second molar and continuing around the mandibular arch to the mandibular right deciduous second molar.

   b. After the age of six or seven, there will be a mixture of letters and numbers for charting on children, as this is the age at which mixed dentition begins.

III. Palmer Notation System (HO 3, HO 4)

A. The Palmer notation system for permanent dentition

1. The Palmer notation system for permanent dentition identifies the teeth in each quadrant from 1 (central incisor), to 8 (third molar).

2. All four permanent central incisors are identified as 1 and all four third molars are identified as 8.

3. In order to signify which quadrant one is referring to, a practitioner would verbally indicate "upper right," "upper left," "lower left" or "lower right." For example, "upper left five" is the maxillary left second premolar.

4. When charting a tooth according to the Palmer notation system for permanent dentition, symbols are used to indicate the quadrant.

a. ┘ - maxillary right quadrant

b. └ - maxillary left quadrant

c. ┌ - mandibular left quadrant

d. ┐ - mandibular right quadrant

5. The horizontal line indicates the transverse or occlusal plane.

6. The vertical line indicates the midsagittal plane or midline.

7. REMEMBER that when looking at a patient's chart or in the patient's mouth, YOUR RIGHT IS THE PATIENT'S LEFT AND YOUR LEFT IS THE PATIENT'S RIGHT.
EXAMPLE: Using the Palmer notation system, the mandibular left first molar would be verbally expressed as, "lower left six" and written on the patient's chart as ┌6 . The maxillary right cuspid would be verbally identified as "upper right three" and written on the patient's chart as 3┘ .

B. Palmer notation system for deciduous dentition

1. Uses the same quadrant symbols and verbal quadrant identification as the Palmer system for permanent dentition.

2. Instead of numbering the deciduous teeth, they are lettered in each quadrant from "a" (deciduous central incisor" to "e" (deciduous second molar).

3. "Upper right a" is the maxillary right deciduous central incisor.

4. "Upper right e" is the maxillary right deciduous second molar.

EXAMPLE: The mandibular right deciduous first molar would be verbally expressed as "lower right d" and charted as d┐ . The maxillary left deciduous lateral incisor would be verbally identified by saying, "upper left b," and written on the patient's chart as └b .

IV. Problems in Using Notation Systems

A. "How do I know which system the dentist uses?"

1. If he or she verbally identifies the quadrant,

(upper right, upper left, lower left, lower right) before a number or letter, the system used is Palmer.

2. If a number is used alone, the system is the universal system for permanent dentition.

3. If a letter is used alone, the system employed is the universal system for deciduous dentition.

4. Generally, numbers indicate permanent teeth and letters indicate primary teeth. (II-3)

    a. Exception - modified universal system for deciduous dentition

    b. Remember that this system identifies the primary tooth by the number assigned to its succedaneous counterpart according to the universal system for permanent dentition.

    c. The modified universal system for deciduous dentition is being used if a number is used and followed by a lower-case "d" to indicate "deciduous."

B. Charting notation systems

1. Always include the quadrant symbol (ur┘ └ul ┌ll lr┐) when charting the Palmer system. Simply charting a "6" could mean any one of four first molars.

2. Always place a lower case "d" behind the number of a deciduous tooth when using the modified universal system for deciduous teeth. Simply charting "4" would identify the maxillary right second premolar, while "4d" identifies the maxillary right deciduous second molar.

C. Mixed dentition

1. The stages of mixed dentition can be confusing when making charting notations.

2. Be certain that when charting for patients between the ages of six and thirteen that you double check to make sure if the tooth in question is a permanent or primary tooth.

V. Summary and Conclusion

A. Introduction to notation systems

B. Universal notation system

C. Palmer notation system

D. Problems in using notation systems

LESSON PLAN: 5

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. What is a succedaneous tooth?
2. Are all permanent teeth succedaneous teeth?
3. Why do you suppose notation systems generally do not use simply all letters or all numbers to identify permanent and primary teeth alike?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Complete Assignment Sheet 1: "Understanding Notation Systems."

LESSON PLAN: 5

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

For each of the following, select the one, best answer and place the corresponding letter in the blank.

____ 1. According to the universal notation system, the maxillary left second molar is identified by which of the following symbols?

a. i
b. ⌊7
c. 15
d. e⌋

____ 2. According to the Palmer notation system, the mandibular right cuspid is identified by which of the following symbols?

a. 3⌉
b. ⌈3
c. d
d. 6

____ 3. According to the Palmer notation system, the mandibular left deciduous first molar is identified by which of the following symbols?

a. 21d
b. ⌈d
c. d
d. 19d

____ 4. According to the universal notation system, the maxillary right deciduous central incisor is identified by which of the following symbols?

a. 8d
b. 9d
c. e
d. b⌋

____ 5. According to the universal notation system, the mandibular right second premolar is identified by which of the following symbols?

a. 29
b. 20
c. t
d. $\overline{5|}$

____ 6. According to the Palmer notation system, the maxillary right first molar is identified by which of the following symbols?

a. 3
b. $\overline{|b}$
c. 6
d. $\underline{6|}$

LESSON PLAN: 5

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

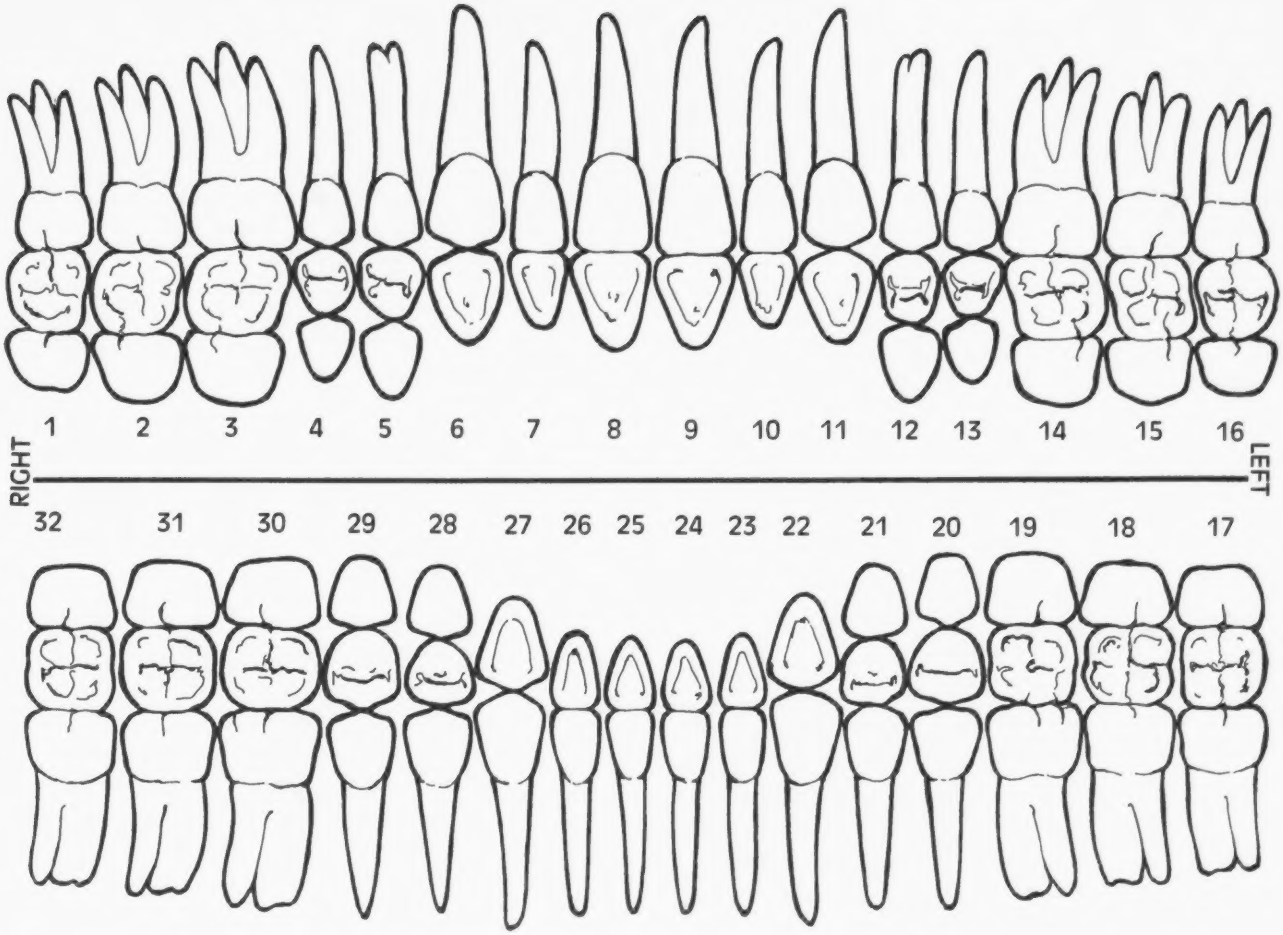
ANSWERS TO EVALUATION ITEMS:

1. c
2. a
3. b
4. c
5. a
6. d

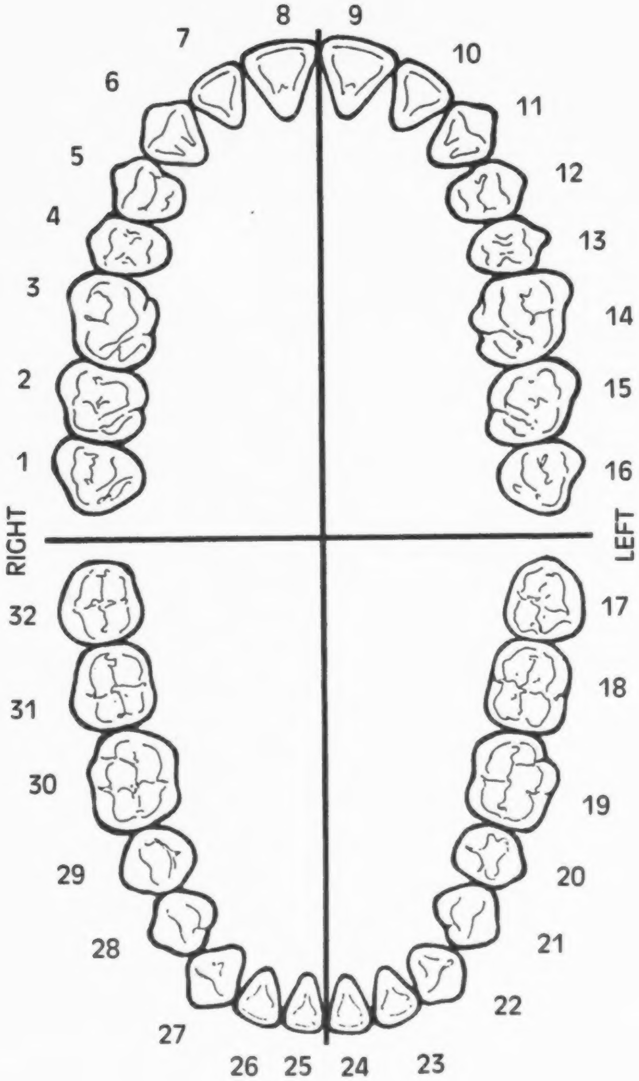
HO 1

Universal Notation System

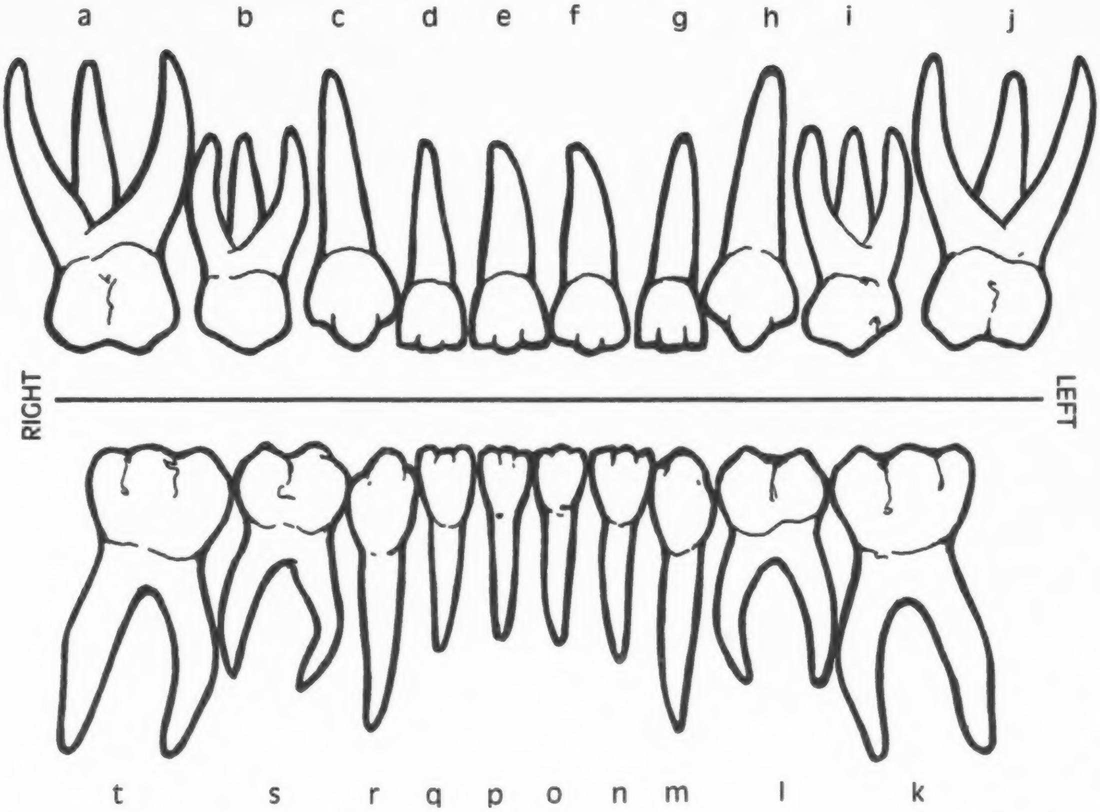
Permanent Teeth


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
RIGHT
LEFT
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17

Universal System
Permanent Teeth

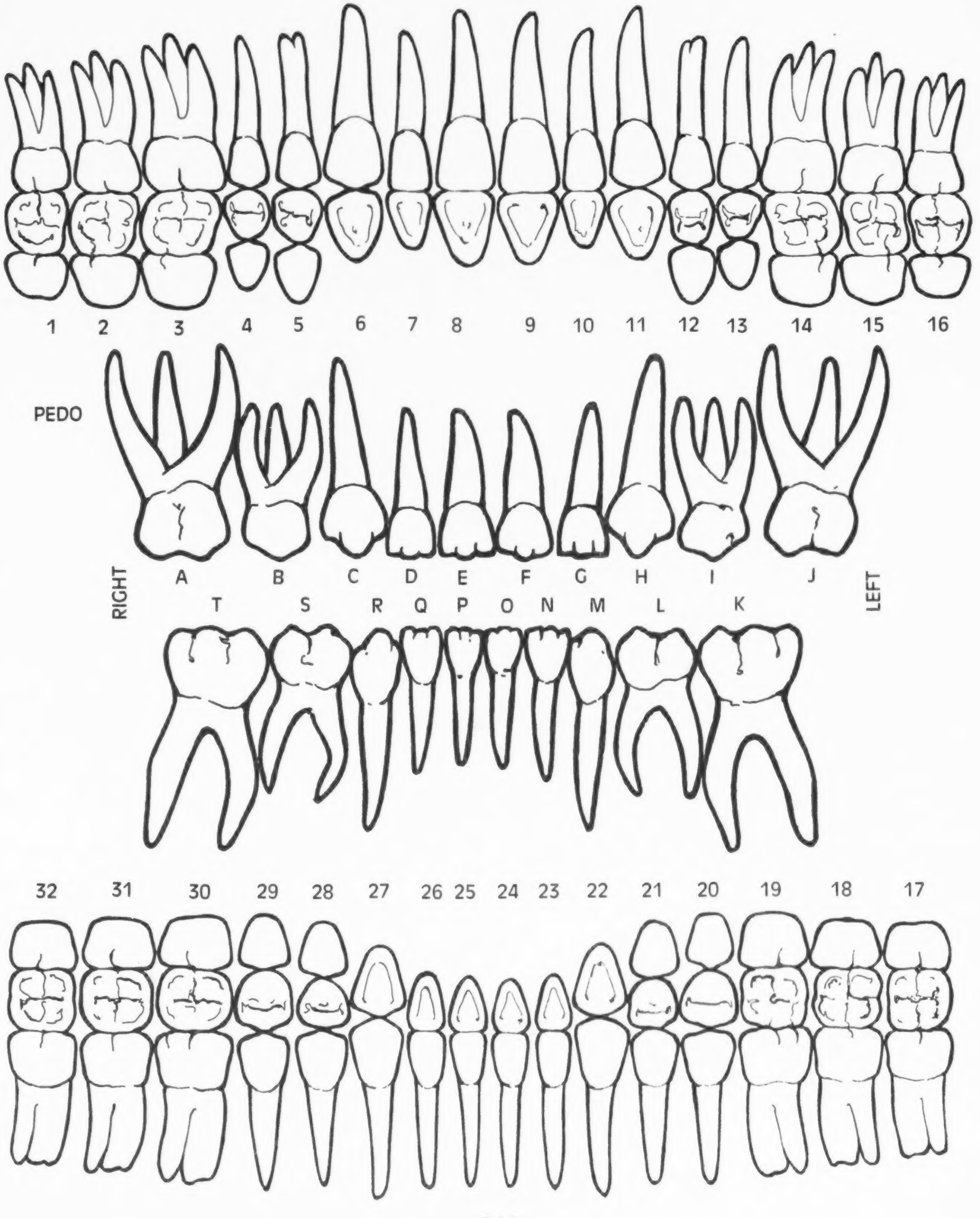

8
9
7
10
6
11
5
12
4
13
3
14
2
15
1
16
RIGHT
LEFT
32
17
31
18
30
19
29
20
28
21
27
22
26
25
24
23

Universal System
Deciduous Teeth

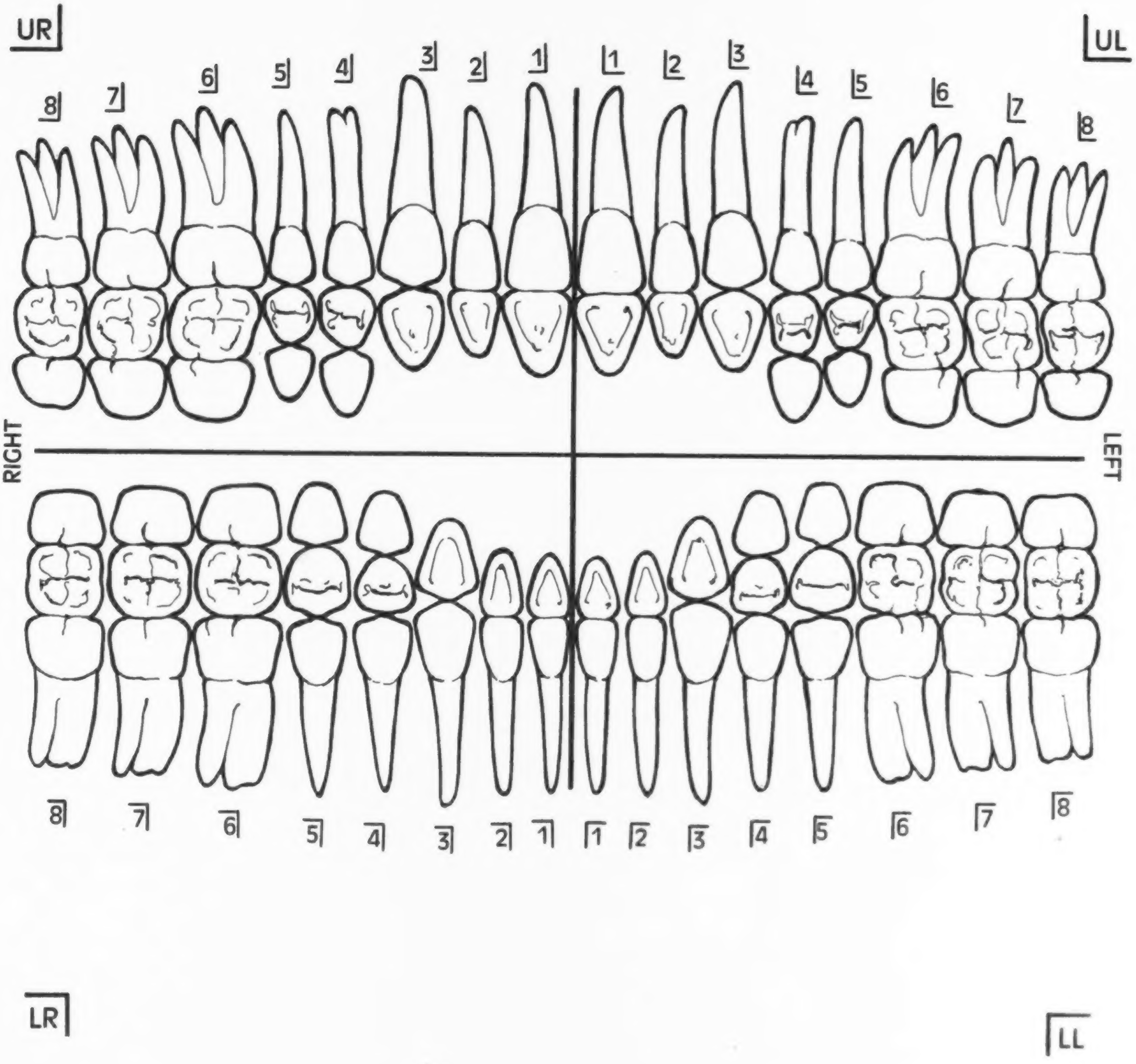

a
b
c
d
e
f
g
h
i
j
RIGHT
LEFT
t
s
r
q
p
o
n
m
l
k

HO 2

Universal Chart


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
PEDO
A B C D E F G H I J
RIGHT
LEFT
T S R Q P O N M L K
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17

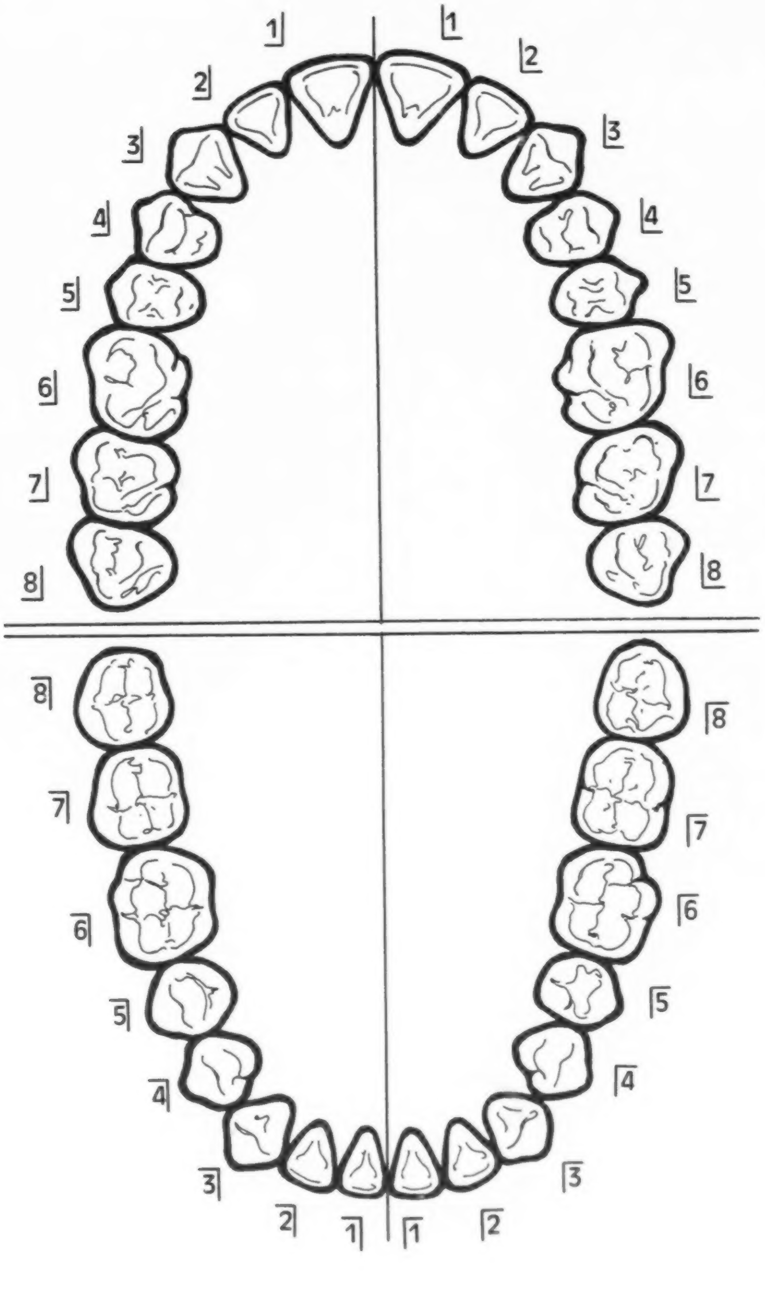
Palmer Notation System
Permanent Teeth


UR
8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8
UL
RIGHT
LEFT
8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8
LR
LL

174

Palmer System

Permanent Teeth


1
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4
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6
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8
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3
4
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6
7
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5
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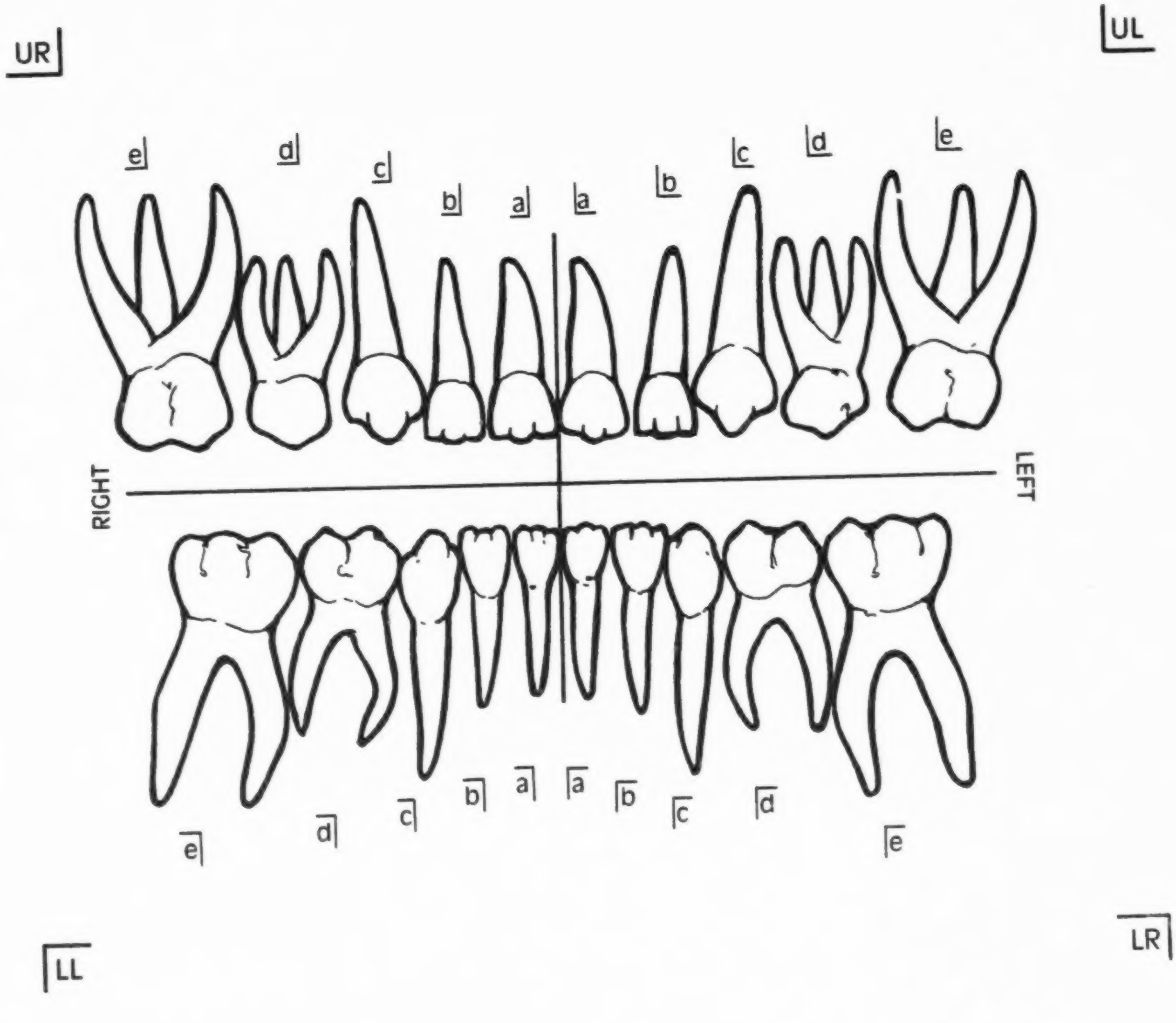
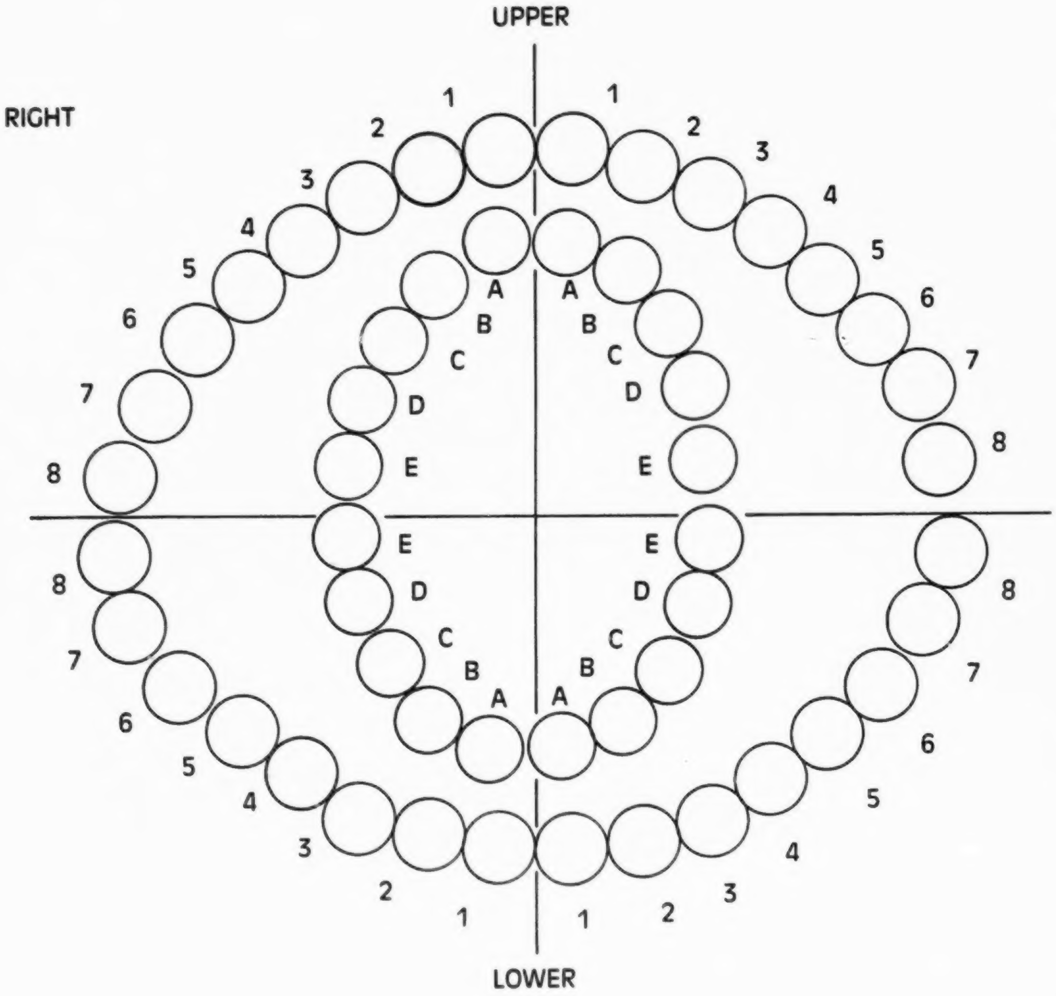
2
1
8
7
6
5
4
3
2
1

Palmer System
Deciduous Teeth


UR
UL
e|
d|
c|
b|
a|
|a
|b
|c
|d
|e
RIGHT
LEFT
e|
d|
c|
b|
a|
|a
|b
|c
|d
|e
LL
LR

Palmer Chart


UPPER
RIGHT
LEFT
LOWER
1
2
3
4
5
6
7
8
A
B
C
D
E

AS 1

Name: ____________________

Date: ____________________

Assignment Sheet 1
Understanding Notation Systems

1. Draw the symbol indicating the maxillary right quadrant according to the Palmer notation system.

   ______

2. Draw the symbol indicating the mandibular left quadrant according to the Palmer notation system.

   ______

3. Name the notation system that numbers permanent teeth from 1 for the maxillary right third molar to 32 for the mandibular right third molar.

   ____

4. Name the notation system in which there are four of each of the following: a; b; c; d; e.

   ____

5. Which of the three types of dentition would most likely require charting that includes both letters and numbers?.

   ____

Identify 6 below according to the universal notation system

symbol - ______ name of tooth - ______________________________

Identify 7 below according to the Palmer notation system

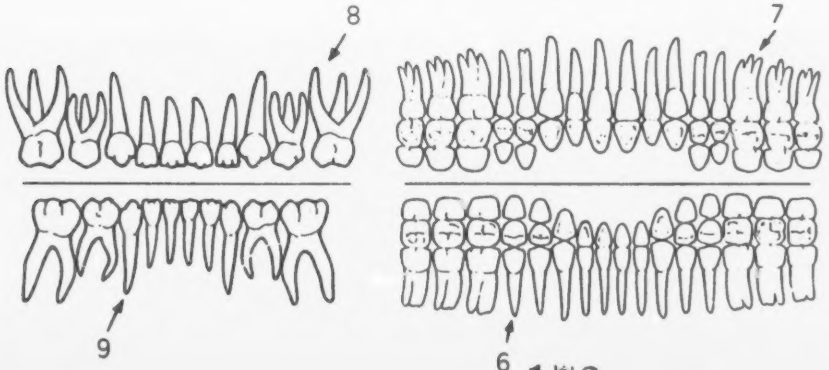
symbol - ______ name of tooth - ______________________________

Identify 8 below according to the universal notation system

symbol - ______ name of tooth - ______________________________

Identify 9 below according to the Palmer notation system

symbol - ______ name of tooth - ______________________________



Answers to Assignment Sheet 1
Understanding Notation Systems

1. Draw the symbol indicating the maxillary right quadrant according to the Palmer notation system. ┘

2. Draw the symbol indicating the mandibular left quadrant according to the Palmer notation system. ┌

3. Name the notation system that numbers permanent teeth from 1 for the maxillary right third molar to 32 for the mandibular right third molar.

   Universal notation system

4. Name the notation system in which there are four of each of the following: a; b; c; d; e

   Palmer notation system for deciduous dentition

5. Which of the three types of dentition would most likely require charting that includes both letters and numbers?

   Mixed Dentition (Ages 6 to 13)

Identify 6 below according to the universal notation system

symbol - 29 name of tooth -Mandibular right second premolar (bicuspid)

Identify 7 below according to the Palmer notation system

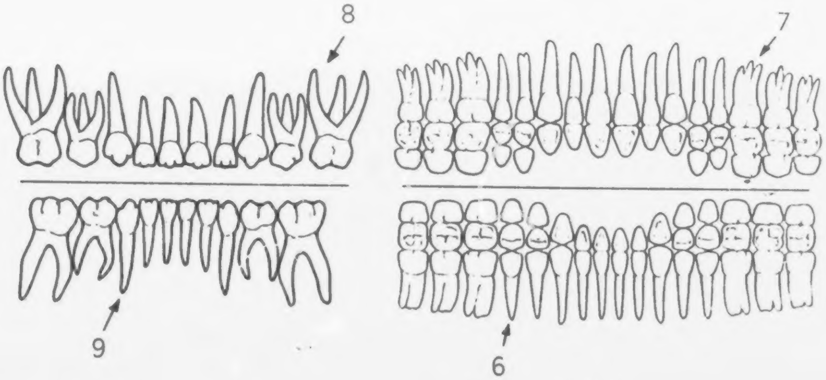
symbol - ⌊6 name of tooth -Maxillary left first molar

Identify 8 below according to the universal notation system

symbol - 4d name of tooth - Maxillary left second deciduous (primary) molar

Identify 9 below according to the Palmer notation system

symbol - c name of tooth - Mandibular right deciduous (primary) cuspid



LESSON PLAN: 6

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-6 OR DEMONSTRATION:

ANATOMICAL PARTS AND TISSUES OF TEETH
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Identify anatomical parts of teeth.
2. Identify tissues that compose teeth.
3. Label parts and tissues of a tooth on a diagram.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Anatomical Structure of a Tooth
2. TM 2: Tissues Composing the Tooth
3. AS 1: Understanding Anatomical Structure of the Tooth

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. Boucher's Clinical Dental Terminology. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

It is necessary for the dental aide to have a general knowledge of the parts and tissues composing a tooth. Dental professionals and paraprofessionals use terms referring to the parts and tissues of a tooth in the course of daily patient care. This lesson is about anatomical aspects of teeth.

LESSON PLAN: 6

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Terms and Definitions

   A. Apex (apical aspect) - the end of the root

   B. Apical foramen (ā´-pĭ-cŭl fȯ-rȧ-mĕn) - a natural opening in the root, usually at or near the apex

   C. Cementum (sē-mĕn´-tŭm) - a specialized calcified connective tissue that covers the anatomic root of a tooth

   D. Cementoenamel junction (cervical line) - the junction of the enamel of the crown and the cementum of the root of a tooth; the area above the junction corresponds to the anatomic crown of the tooth; the area apical to the junction constitutes the anatomic root of the tooth

   E. Cervix - relating to the neck or cervical line of a tooth; usually corresponds closely to the area of the cementoenamel junction

   F. Coronal (kŭ-rō´-nŭl) - relating to the anatomic crown of a tooth

   G. Crown - that portion of the human tooth covered by enamel; the portion of a natural tooth extending from its cementoenamel junction to the occlusal surface or incisal edge; that portion of the dentin covered by enamel

   H. Dentin (dĕn´-tĭn) - the portion of the tooth that lies subjacent to the enamel and cementum; pierced by tubules containing filamentous extensions of pulp tissue

   I. Enamel (ē-năm´-ĕl) - the outermost layer or covering of the coronal portion of the tooth that overlies and protects the dentin

   J. Gingiva (jĭn´-jĭ-vŭh) - the fibrous tissue composed of mucous membrane that immediately surrounds a tooth and covers the alveolar process; "gum tissue"

K. Pulp - the highly vascular innervated connective tissue contained within the pulp cavity of a tooth

L. Root - the part of the tooth covered by cementum; the part of the natural fully erupted tooth which is imbedded in the alveolar process

II. Anatomical Structure of a Tooth (HO 1)

- A. Crown
    - 1. Part of the tooth usually visible above the gum line
    - 2. Covered by enamel
    - 3. Biting surfaces of the tooth are located on the "coronal" aspect of the tooth. (II-1, II-2)
- B. Root
    - 1. Part of the tooth usually imbedded in the bone and gum tissue (gingiva) (II-3)
    - 2. Covered by cementum
    - 3. Teeth have one, two, or three roots.
        - a. Anterior teeth, maxillary second premolars, and mandibular first and second premolars have one root.
        - b. Maxillary first premolars and all mandibular molars have two roots.
        - c. All maxillary molars have three roots.
- C. Apex
    - 1. Located at the lower tip of each root
    - 2. The tip of the apex contains the "apical foramen."
        - a. Small opening in the tip of each root through which nerves and blood vessels enter and leave the tooth.
        - b. Small blood vessels and nerves supply the "pulp" of the tooth with blood, nutrients, and the capability of perceiving pain.

D. Cervix

1. Point at which the crown and the root meet.
2. Usually located at or very near the gum line.
3. Sometimes referred to as the "cementoenamel junction."

III. Tissues Composing the Tooth (HO 2)

A. Enamel

1. Covers the crown of the tooth
2. Approximately 2 1/2 mm thick
3. Hardest substance in the human body
4. After enamel forms, it is not capable of further growth or repair.
5. Enamel is "insensate."
    a. Has no capability to perceive pain
    b. Painful sensations are transmitted by pulp fibers that tunnel through dentin.

B. Dentin

1. Composes the bulk, (majority) of tooth tissue
2. Dentin is always covered by enamel or cementum unless the tooth is decayed or fractured.
3. Softer than enamel, but harder than cementum
4. Capable of a small amount of growth and repair
5. Although dentin itself is insensate, there are microscopic fibrils of pulp tissue that tunnel through dentin and will transmit painful stimuli to the pulp.

C. Cementum

1. Covers the root of the tooth
2. Usually about 1/2 mm thick
3. Approximately as hard as bone

4. Capable of a small amount of growth and repair

5. Capable of perceiving painful stimuli because of living cells that become trapped in the calcified cementum as it forms

D. Pulp

1. Supplies dentin with fluid to prevent tooth from becoming brittle

2. The only tooth tissue that will bleed if injured

3. Contains nerves which transmit perception of pain

4. Composed of fibrous tissue, blood vessels and nerves

    a. Blood vessels and nerves enter and leave the pulp through the apical foramen.

    b. Microscopic extensions of the pulp tunnel through dentin providing fluids, manufacturing reparative dentin if dentin is traumatized, and transmitting painful stimuli to the pulp.

IV. Summary and Conclusion

A. Terms and definitions

B. Anatomical structure of a tooth

C. Tissues composing the tooth

LESSON PLAN: 6

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. What is the proper name for the biting surface of a posterior tooth?

2. What is the appropriate name for the cutting edge of an anterior tooth?

3. What is the proper name for the bone in which the roots of the teeth are imbedded?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 6

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

For each of the following, select the one, best answer and place the corresponding letter in the blank.

____ 1. The tissue that covers the crown of a tooth is:

a. Enamel
b. Dentin
c. Cementum
d. Pulp

____ 2. The tissue that provides fluids for the dentin is:

a. Enamel
b. Gingiva
c. Pulp
d. Cementum

____ 3. Dentin is:

a. The hardest substance in the human body
b. The substance that forms the majority or bulk of tooth structure
c. The substance which covers the root of a tooth
d. a and b

____ 4. The structures buried within the alveolar process are:

a. Enamel and dentin
b. Apex and root
c. Cementum and apical foramen
d. b and c

____ 5. The tissue that contains fibrils of the pulp extending through it is:

a. Enamel
b. Dentin
c. Cementum
d. Gingiva

____ 6. A landmark located at or near the cervix of a tooth is

- a. The apex
- b. The dentinoenamel junction
- c. The pulp
- d. The cementoenamel junction

____ 7. The landmark through which nerves and blood vessels enter and leave a tooth is

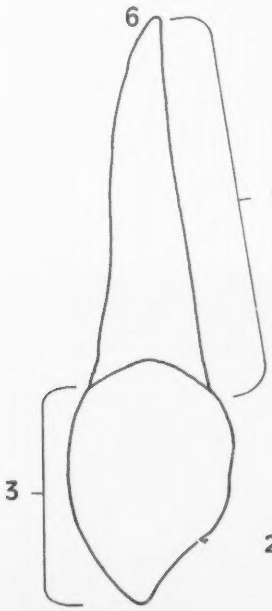
- a. The root
- b. The apical foramen
- c. The gingiva
- d. The alveolar process

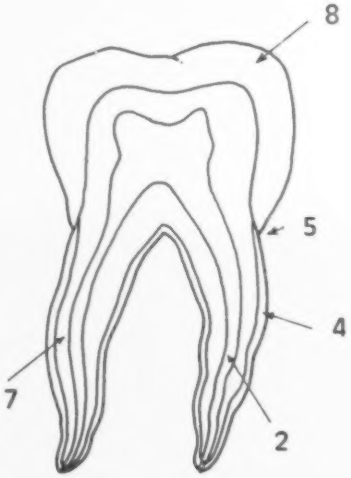
____ 8. The tissue that covers the root of a tooth is

- a. Enamel
- b. Dentin
- c. Cementum
- d. Pulp

Directions: Place the correct number for each part of the tooth next to the corresponding terms below.

9. enamel ______
10. dentin ______
11. cementoenamel junction ______
12. cementum ______
13. pulp ______
14. apex ______
15. crown ______
16. root ______





LESSON PLAN: 6

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

ANSWERS TO EVALUATION ITEMS:

1. a
2. c
3. b
4. d
5. b
6. d
7. b
8. c
9. 8
10. 7
11. 5
12. 4
13. 2
14. 6
15. 3
16. 1

Anatomical Structure of a Tooth

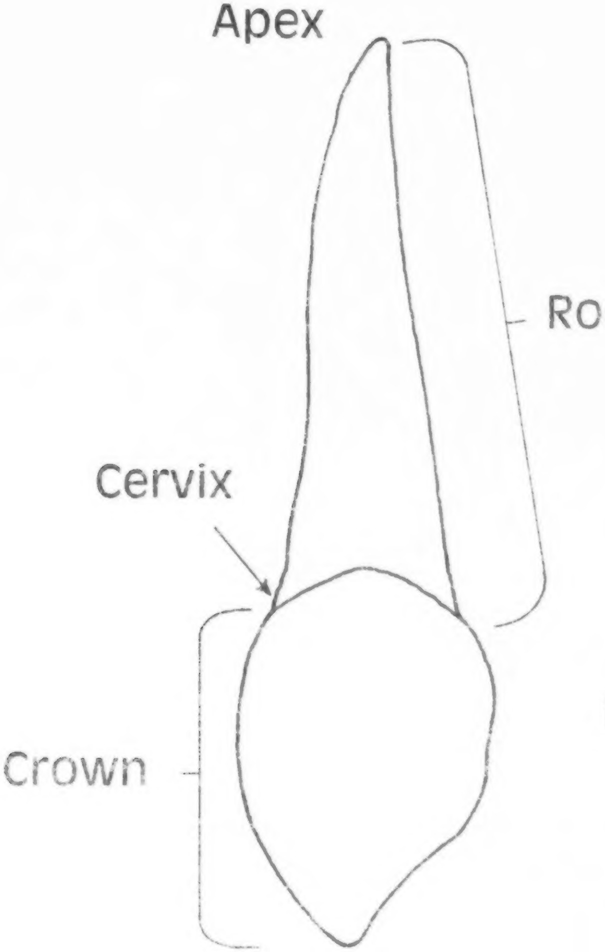

Apex
Root
Cervix
Crown

Figure 1: Maxillary Anterior Tooth, Single Root

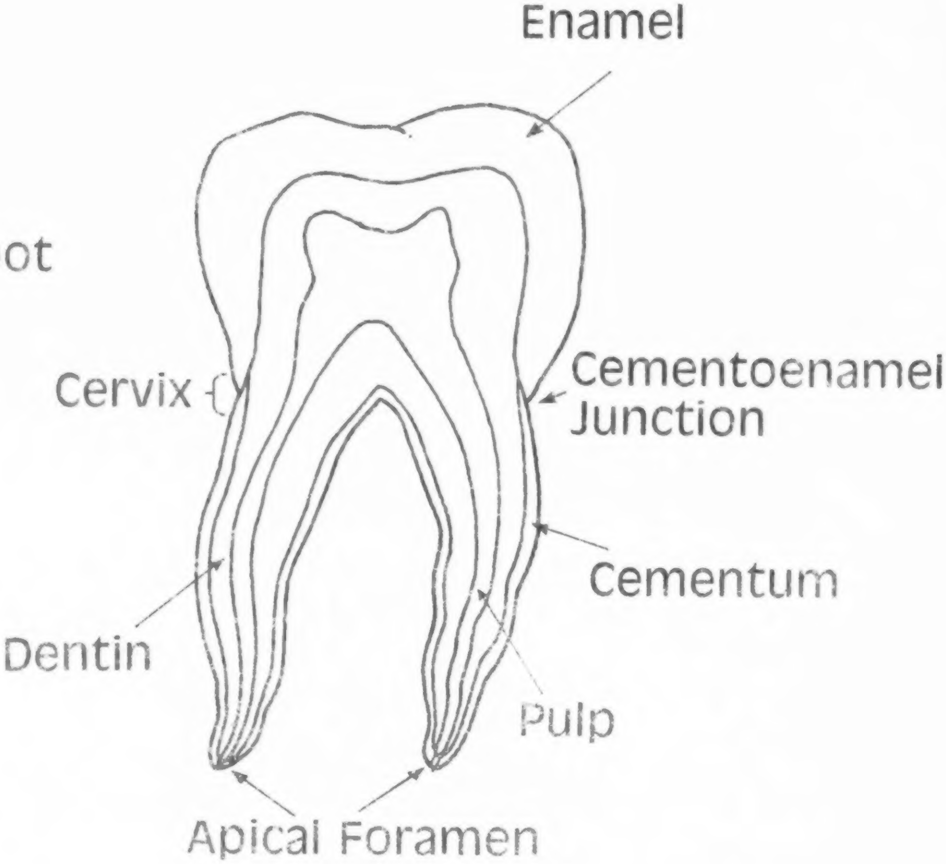
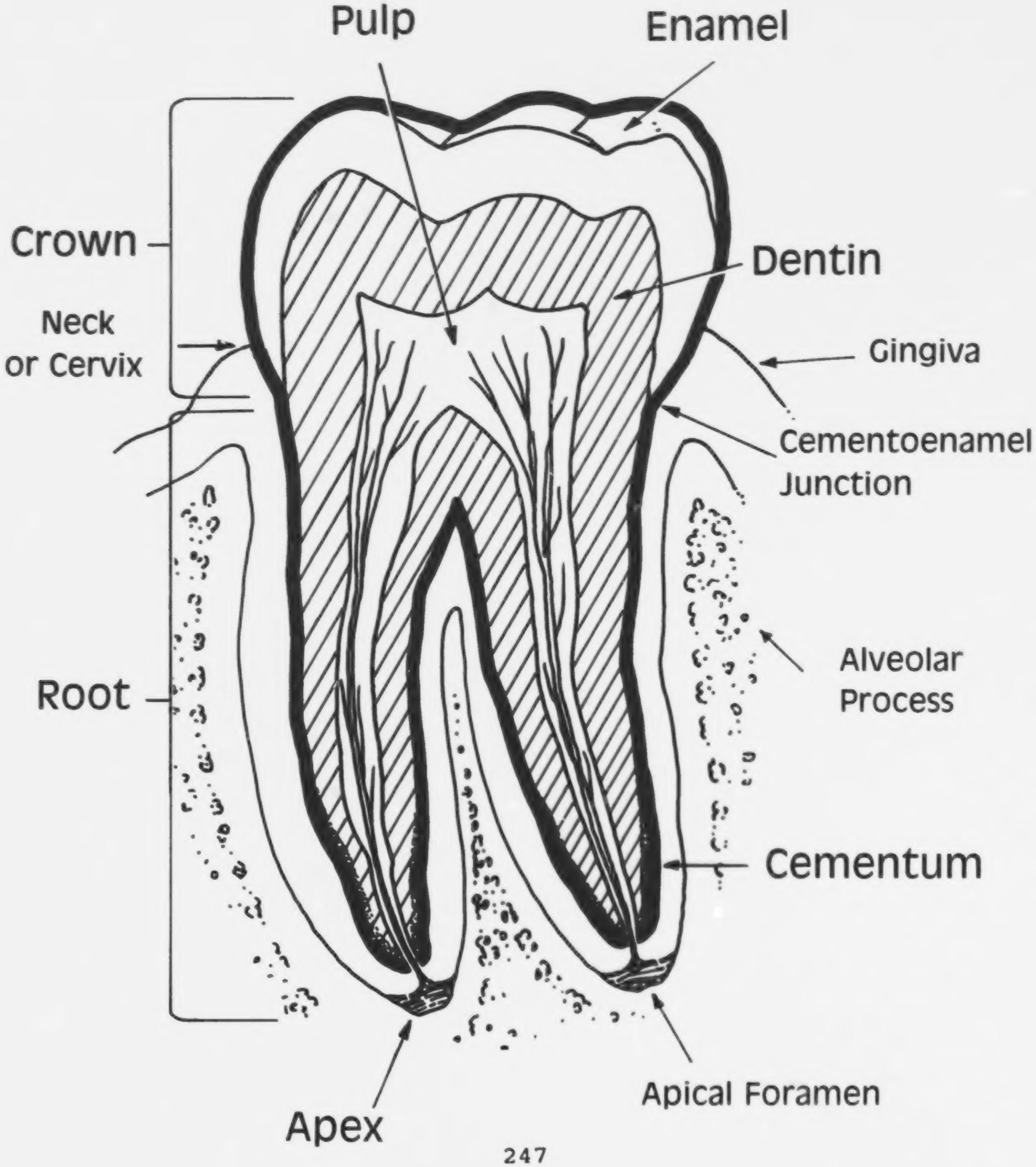

Enamel
Cervix
Cementoenamel Junction
Cementum
Dentin
Pulp
Apical Foramen

Figure 2: Mandibular Molar, Two Roots

Tissues Composing the Tooth


Pulp
Enamel
Crown
Dentin
Neck
or Cervix
Gingiva
Cementoenamel
Junction
Alveolar
Process
Root
Cementum
Apical Foramen
Apex

ASSIGNMENT SHEET 1 - UNDERSTANDING ANATOMICAL STRUCTURE OF THE TOOTH

1. What is the hardest substance in the human body?

   ____

2. Circle the tooth tissue that would bleed if exposed or injured.

   enamel dentin cementum pulp

3. Which tooth tissue is approximately one-half millimeter thick and covers the root of the tooth?

   ____

4. Circle the tooth tissue that is insensate and incapable of growth or repair after formation.

   enamel dentin cementum pulp

5. Describe the cementoenamel junction.

   ____

   ____

   ____

6. Describe the apical foramen.

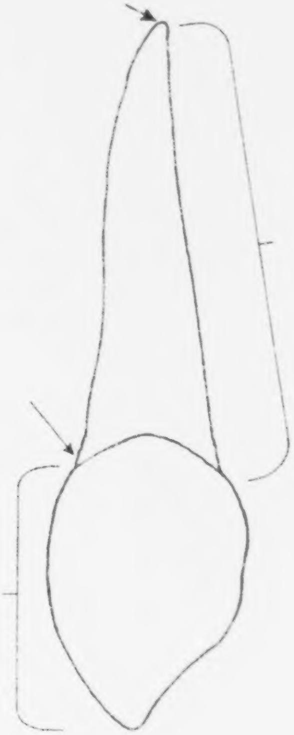
   ____

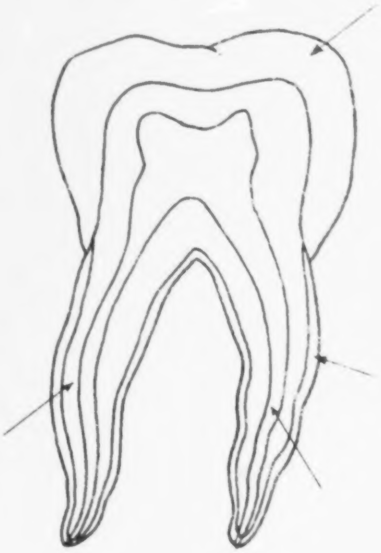
   ____

   ____

Directions: On the anterior tooth pictured below, label the 1) crown, 2) root, 3) cervix, and 4) apex.

On the posterior tooth pictured below, label the 1) enamel, 2) dentin, 3) pulp, and 4) cementum.





Answers To Assignment Sheet 1 - UNDERSTANDING ANATOMICAL STRUCTURE OF THE TOOTH

1. What is the hardest substance in the human body?
ENAMEL

2. Circle the tooth tissue that would bleed if exposed or injured.
enamel dentin cementum [✓ pulp]

3. Which tooth tissue is approximately one-half millimeter thick and covers the root of the tooth?
CEMENTUM

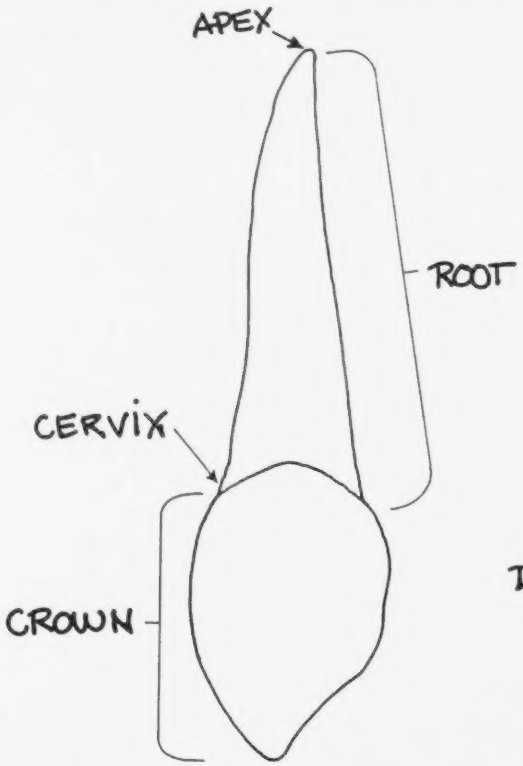
4. Circle the tooth tissue that is insensate and incapable of growth or repair after formation.
[✓ enamel] dentin cementum pulp

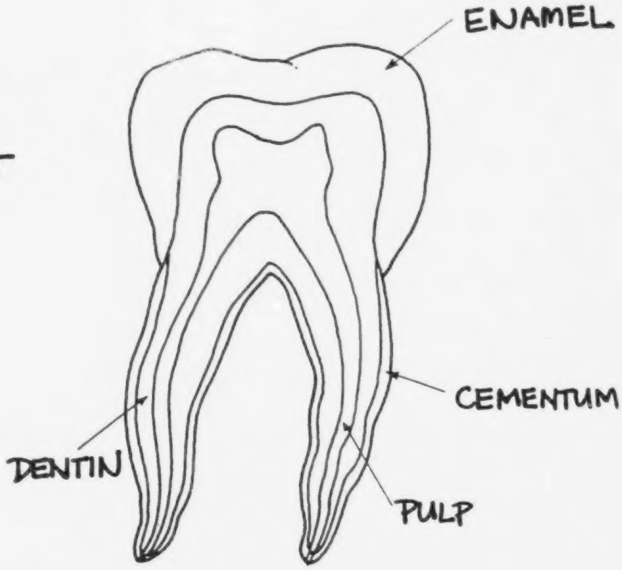
5. Describe the cementoenamel junction:
The Cementoenamel junction is the point on a tooth where the cementum and enamel meet. It is usually located at or near the cervix.

6. Describe the apical foramen:
The apical foramen is a small natural opening at the tip of each apex through which nerves and blood vessels enter and leave the pulp.

Directions: On the anterior tooth pictured below, label the 1) crown, 2) root, 3) cervix, and 4) apex.

On the posterior tooth pictured below, label the 1) enamel, 2) dentin, 3) pulp, and 4) cementum.





LESSON PLAN: 7

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

SCOPE OF UNIT:

This unit familiarizes the student with basic anatomy of the oral cavity, including: dental arches; names, functions, and surfaces of teeth; and characteristics of permanent and primary dentition.

INFORMATION TOPIC: III-7 OR DEMONSTRATION:

FACTORS INFLUENCING DENTAL HEALTH
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Match terms presented in this lesson to correct definitions.
2. Describe the relationship between plaque accumulation and carbohydrate intake as a causative factor in tooth decay.
3. Describe the relationship between subgingival plaque and improper home care as a causative factor in periodontal disease.
4. Explain and demonstrate proper brushing and flossing technique.
4. Describe the benefits of professional prophylaxis and fluoride.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1.	HO 1:	Tooth Decay
2.	HO 2:	Periodontal Disease
3.	Ho 3:	Brushing Technique
4.	HO 4:	Flossing Technique

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Introduction To Dental Terminology. Champaign, IL: The Colwell Company, 1974.

Dental Assistant Teacher's Guide. #HO1006, Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

Zwermer, Thomas J. Boucher's Clinical Dental Terminology. St. Louis: C.V. Mosby Co., 1982.

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

A major responsibility of dental auxiliary personnel is teaching patients to prevent tooth decay and gum disease through home care. The dental aide must be able to relate clearly the causes of these conditions as well as demonstrate the proper way to brush and floss. This lesson covers several factors that influence dental health.

LESSON PLAN: 7

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

OUTLINE: (Key Points)

I. Terms and Definitions

A. Anorexia (ăn-ō-rĕks-ē-ŭh) - pathologic, physiologic, or psychologic loss of appetite

B. Bulimia (byū-lēm´-ē-ŭh) - abnormal and constant craving for food characterized by a syndrome known as "binging and purging" through which the victim consumes large amounts of food then purges by vomiting, and/or using laxatives or diuretics

C. Calculus (kăl´-kū-lŭs) - tartar, the hard mineral deposit on teeth; subgingival calculus occurs apical to the gingival margin (a frequent finding in cases of periodontal disease); contributes to the inflammatory process

D. Carbohydrates (kăr-bō-hī´-drātes) - any of various neutral compounds of carbon, hydrogen and oxygen, (sugars, starches, and celluloses)

E. Caries (kā´-rēez) - a process of progressive destruction of the hard tissues of the teeth initiated by bacterially-produced acids at the tooth surface

F. Decalcification (dē-kăl-sĭ-fĭ-kā´-shŭn) - loss or removal of calcium salts from calcified tissues, usually the result of bacterial acid

G. Fluoride (flō´-rīde) - a compound of fluorine, helpful in enamel deposition and calcification

H. Gingival sulcus (sŭl´-kŭs) - the hallow groove (no more than 3 mm deep in healthy tissue) between the gingiva and the cervix of a tooth and extending around its circumference

I. Gingivitis - inflammation of the gingival tissues usually resulting from poor oral hygiene practices; the first stage of periodontal disease, characterized by bleeding upon gingival stimulation, swelling and redness

J. Necrotic (necrotizing) tissue (nē-krŏ́-tĭk) - tissue that is dead or in the process of dying

K. Periodontal disease (pār-ē-ō-dŏnt́-ăl) - inflammation of the tissues surrounding and supporting the teeth; gingival inflammation extends apically destroying periodontal attachments and resorbing alveolar processes

L. Periodontal pocket - an open gap between the normal level of gingival tissue and the level of the alveolar bone caused by bone resorption in the periodontal disease process

M. Plaque (plăk) - a sticky substance that accumulates on the teeth; composed of mucin derived from saliva and bacteria and their products; often causes development of caries and gingival inflammation

N. Prophylaxis (prō-fĭ-lăkś-ĭss) - a remedy that tends to ward off disease; in dentistry, the process of removing calculus, necrotic tissue, stain and plaque

O. Saccharide (săḱ-ă-rīde) - a simple sugar; polysaccharide is a carbohydrate composed of two or more saccharides; a complex carbohydrate

P. Suppuration (sŭp-ŭr-rā́-shŭn) - formation and discharge of pus

II. Tooth Decay (HO 1)

A. Three causative factors

1. Dental plaque

a. White doughy collection of salivary solids and bacteria

b. Forms and builds naturally on teeth every few hours unless it is mechanically removed

c. Bacteria in plaque ingest carbohydrates and excrete acid

2. Poor diet

a. Frequent consumption of sticky carbohydrates or simple sugars

b. A carbohydrate is any starch or sugar.

1) Simple sugars are carbohydrates formed from a single saccharide.

2) Starches are complex carbohydrates formed from many saccharides.

c. Inadequate nutrition

1) Vitamin deficiencies

2) Eating disorders, (anorexia/bulimia)

3. Inadequate home care

a. Failure to remove plaque from coronal surfaces twice a day with toothbrush

b. Failure to remove plaque once a day from interproximal surfaces with dental floss

B. How the causative factors influence decay rate

1. The twenty minute acid attack

a. Any time a carbohydrate (i.e., candy bar, potato chip, slice of bread, piece of fruit) is placed in the mouth, the bacteria in plaque consume the carbohydrate and excrete acid for twenty minutes.

b. If a patient takes one drink of a soft drink containing sugar every twenty minutes for one hour, acid will be produced for the entire hour.

c. If a patient drinks the entire soft drink at one time, acid will be produced for one twenty minute period.

d. The acid produced when bacteria living in dental plaque ingest carbohydrates will erode enamel (decalcification) and result in tooth decay (dental caries).

2. Carbohydrate intake

a. Frequency

1) Patient should be advised not to nibble on any carbohydrate throughout the day. If the patient chooses to have a snack it should be eaten all at once and the patient should brush his/her teeth afterward if possible. If brushing is not possible a drink of water or rinsing will help cut the strength of the acid.

2) Patients who sip sugary drinks (even fruit juice), or have snacks every hour or so will have a higher incidence of tooth decay due to the frequent "twenty minute acid attacks."

b. Type of carbohydrate

1) Carbohydrates are necessary for the human body to produce energy but some work more efficiently than others.

2) Simple sugars rarely contain any essential nutrients aside from calories which produce quick energy that can be utilized by the body, so they are often referred to as "empty calories." Complex carbohydrates usually contain other nutrients and fiber, thus providing added benefits to the energy they provide.

3) It is easier for the bacteria in plaque to digest simple sugars, therefore they cause more acid production.

4) Complex carbohydrates must be broken down into simple sugars by the body before their energy can be utilized. Complex carbohydrates provide longer lasting energy, (the energy is utilized as the body slowly breaks the carbohydrate down) higher nutrient values, and a lower amount of intraoral acid production. (II-1)

3. Dietary habits

a. Vitamin deficiencies due to an unbalanced diet will lead to lower resistance to both general and intraoral infections.

b. Anorexics/bulimics

1) Patients suffering from bulimia have a higher than average decay rate.

2) Stomach acids present in the oral cavity from frequent self-induced vomiting, pool around cervical areas of mandibular teeth and decalcify the enamel.

3) Anorexics are subject to intraoral infections due to complete lack of nutrient intake.

4. Prevention though home care

a. Bacteria in plaque cannot produce acid if the plaque is removed before acid production takes place.

b. Teeth should be brushed morning and night. Ideally, after every meal.

c. Dental floss should be used once a day to remove bacterial plaque from the interproximal areas and from beneath the gums between teeth.

III. Periodontal Disease (HO 2)

A. Causative factors

1. Bacterial plaque

a. Plaque accumulates beneath the gum line (gingival sulcus).

b. Bacteria present in subgingival plaque create a low-grade inflammation (gingivitis), characterized by bleeding of the gums and red, swollen, or puffy appearance of the gums.

2. Calculus

a. If plaque is left undisturbed beneath the gum line for twenty-four to thirty-six hours, the minerals naturally present in saliva will begin to harden (calcify) it.

b. Calcified plaque (calculus) beneath the gums is a constant irritant, much like a splinter in one's finger. This foreign body beneath the gum line further inflames the gingival tissue.

c. Subgingival calculus mechanically traps more plaque, further intensifying the bacteria build-up.

B. How the causative factors influence bone loss

1. The combination of bacteria and calculus destroys the microscopic attachments of gingival tissue to the teeth and the alveolar process, the condition at this point is known as "periodontitis."

2. The infection progresses to the alveolar process, causing pathologic bone resorption.

3. Pockets form around teeth from loss of supportive bone.

4. Pockets will fill with bacteria and necrotizing (dying) tissue - suppuration

5. With loss of bone support and general infection, teeth loosen and fall out.

C. Prevention through home care

1. Remove plaque from between teeth and beneath gums once every twenty-four hours.

   a. It takes twenty-four hours for bacteria in subgingival plaque to colonize and become toxic.

   b. Subgingival plaque begins to calcify after twenty-four hours.

2. Carry dental floss below the gum line or subgingival plaque will not be disrupted.

IV. Proper Brushing and Flossing

A. Brushing (HO 3)

1. Use a soft toothbrush.

   a. Stiff brushes have pointed bristles to which plaque will not adhere.

   b. Stiff brushes encourage "toothbrush abrasion."

      1) Stiff pointy bristles abrade delicate gingival tissue.

      2) Gingival tissue responds to the abrasion by receding and causing exposure of the cementum.
      3) Continued abrasion cuts small grooves in the cementum.

4) Loss of natural insulation causes increased sensitivity in exposed cementum.

5) Because cementum is the least calcified of all three hard tissues of the tooth, it decays more easily than enamel or dentin; increased decay rate at the gum line.

2. Do not brush gums.

   a. Even a soft bristle brush will cause toothbrush abrasion.

   b. Hold the toothbrush at a 45° angle to the gum line and gently scrub with a circular massaging motion.

3. Do not spread the bristles of the brush.

   a. Only the tips of the bristles remove plaque.

   b. Spreading the bristles places the tips of the bristles on the gums, causing abrasion.

4. Be gentle.

   a. Most people believe it is necessary to scrub with lots of "elbow grease" while brushing.

   b. Vigorous scrubbing will not remove plaque adequately and will cause toothbrush abrasion.

5. Take your time.

   a. It should take about three minutes to brush thoroughly.

   b. Vigorous scrubbing will not compensate for not taking the time to clean every surface of every tooth.

B. Flossing (HO 4)

1. Floss once a day.

2. Begin behind the last tooth on an arch and work around to the other side of the same arch, then move to the same side of the other arch.

3. Carry floss beneath the gum line!

4. Use an up-and-down motion with the dental floss firmly held around the contour of the tooth.

    a. Sawing back and forth will not remove plaque.

    b. The floss must be held firmly around the curve of the tooth in order to slip beneath the gum line.

V. Common Questions Patients Ask

A. "Why don't I have to floss the tongue and cheek side of my teeth?"

1. If a soft toothbrush at a 45° angle to the gum line is used, plaque will not accumulate in these areas the way it does between teeth.

2. Those areas are constantly being rubbed by the cheeks and tongue which assists in minimizing the accumulation of plaque around lingual, palatal and buccal surfaces.

B. "Will I lose my teeth if I don't floss daily?"

1. The longer the period of time a person goes without removing bacterial plaque from beneath the gums, the worse the condition becomes.

2. Some people resist the periodontal infection caused by subgingival plaque better than others but only one person in a hundred thousand can expect no ill effects of not flossing.

C. "What is wrong with losing my teeth and having them replaced with dentures?"

1. Dentures are a prosthetic device.

2. Complete upper and lower dentures reduce biting and chewing capacity.

3. Naturally-functioning dentition cannot be replaced by two pieces of plastic, no matter how well the dentures are constructed.

VI. Other Preventive Measures

A. Professional prophylaxis (teeth cleaning)

1. Should be performed every six months.

2. Dentist or hygienist removes all calculus and polished teeth with pumice.

B. Fluoride

1. Fluoride is a naturally-occurring substance found in the earth's crust.

2. Strengthens enamel

   a. Enamel is composed of individual vertical rods or "prisms" packed closely together.

   b. Fluoride bonds or "cements" enamel prisms more closely together.

   c. It becomes more difficult for bacterial acids to penetrate the "interprismatic spaces" and decalcify enamel.

3. Systemic fluoride (orally ingested)

   a. Can be added to water supply (one gallon of fluoride to one million gallons of water or "one part per million")

   b. Occurs naturally in the water in some parts of the country

   c. Where fluoridated water is unavailable, fluoridated children's multivitamins can now be prescribed.

   d. Systemic fluoride during tooth formation can increase resistance to decay by 30% to 40%.

4. Topical fluoride

   a. Applied in the form of a gel or rinse

   b. More effective on deciduous teeth, but also widely used on recently erupted permanent dentition

   c. Not as effective as systemic fluoride during tooth formation

   d. Added to some commercial toothpastes

VII. Summary and Conclusion

A. Terms and definitions

B. Tooth decay

C. Periodontal disease

D. Proper brushing and flossing

E. Common questions patients ask

F. Other preventive measures

LESSON PLAN: 7

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

INTERACTION ITEMS:

1. Why do marathon runners use a technique known as "carbohydrate loading" (stuffing themselves with pasta or a similar complex carbohydrate) the night before a race?

2. Why is it important to floss once a day?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Pair students and have them take turns role-playing the patient and the dental aide in teaching correct brushing and flossing technique.

LESSON PLAN: 7

COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

EVALUATION ITEMS:

For each of the following, select the one, best answer and place the corresponding letter in the blank.

____ 1. Acids are produced in the oral cavity by:

   a. Mixing sugar with saliva
   b. Failure to brush
   c. Mixing bacterial plaque with carbohydrates
   d. Allowing calculus to form beneath the gums

____ 2. Bone loss in the result of:

   a. Too much decay
   b. Too many sweets
   c. Inadequate nutrition
   d. Subgingival calculus and plaque

3. Number the following factors according to their occurrence in causing dental caries.

   ____ a. Enamel decalcifies

   ____ b. Carbohydrates are ingested

   ____ c. Plaque builds up on teeth

   ____ d. Bacteria excrete acids

   ____ e. Bacteria ingest carbohydrates

4. Describe how calculus forms and the effect it has on oral tissues.

5. Describe the effect of systemic fluoride on developing teeth.

6. What is involved in a professional prophylaxis and what benefit can be obtained from regular prophylaxis?

Match the following terms to the correct definitions.

____ 7. A naturally-occurring substance from the earth's crust that, when ingested, is helpful in enamel deposition and calcification

____ 8. Inflammation of the gum tissues usually resulting from poor oral hygiene practices; the first stage of periodontal disease

____ 9. Cavities in the tooth surface caused by bacterially-produced acids

____10. A sticky substance that accumulates on the teeth

____11. Tissue that is dead or in the process of dying

____12. A remedy that tends to ward off disease

____13. A simple sugar

a. Polysaccharide

b. Prophylaxis

c. Fluoride

d. Saccharide

e. Caries

f. Gingivitis

g. Plaque

h. Necrotic

LESSON PLAN: 7

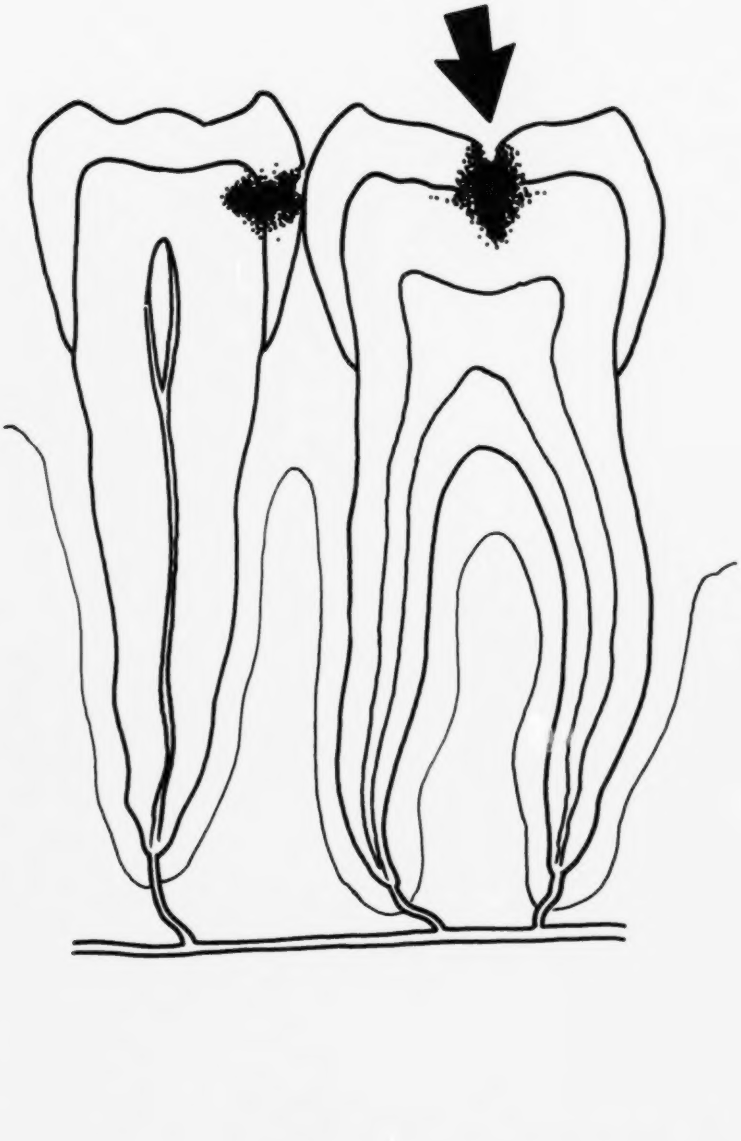
COURSE TITLE: DENTAL AIDE

UNIT III : BASIC ANATOMY OF THE ORAL CAVITY

ANSWERS TO EVALUATION ITEMS:

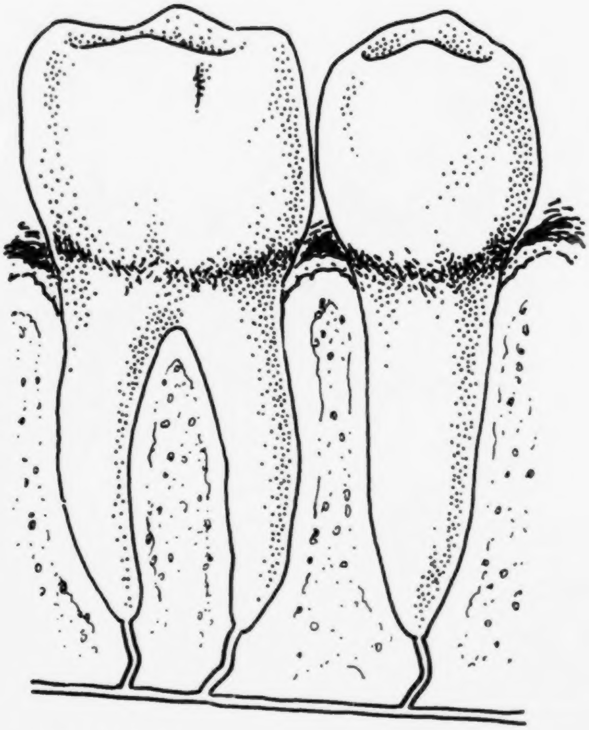
1. c
2. d
3. a. 5
   b. 2
   c. 1
   d. 4
   e. 3
4. Calculus forms when the minerals in saliva harden plaque. Subgingival calculus is a constant irritant to gingival tissue and serves as a trap for more plaque. If allowed to build up without prophylaxis and proper home care, calculus will contribute to periodontal disease and tooth loss.
5. Fluoride ingested while teeth are forming bonds enamel prisms more tightly together so that enamel is more resistant to intraoral acids.
6. Prophylaxis is a procedure by which the dentist or hygienist removes all calculus above and below the gums and the teeth are polished with pumice to remove stain and soft deposits. It should be accomplished once every six months in order to ensure that subgingival calculus does not accumulate to the point of gingival inflammation and bone loss.
7. c
8. f
9. e
10. g
11. h
12. b
13. d

Tooth Decay

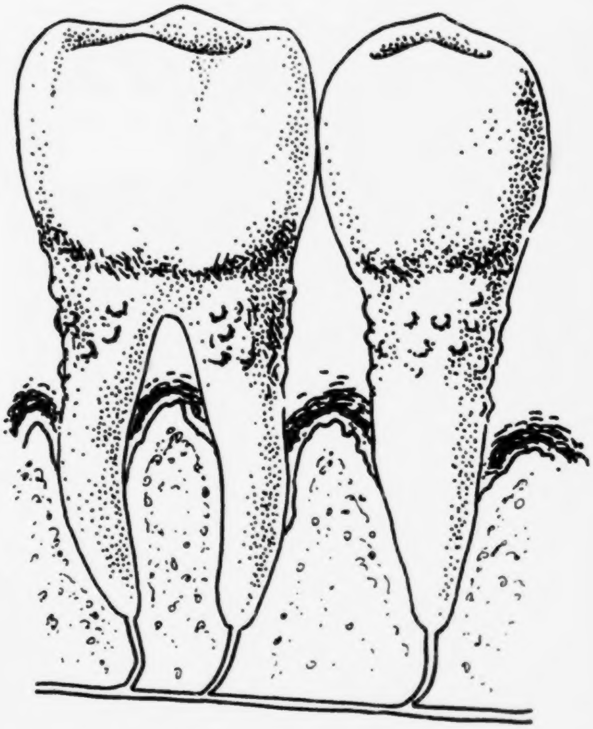


HO 2

Periodontal Disease



Gingivitis

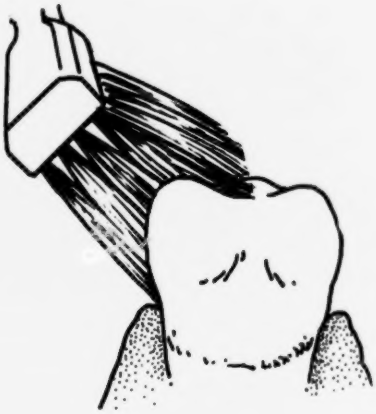


Periodontitis

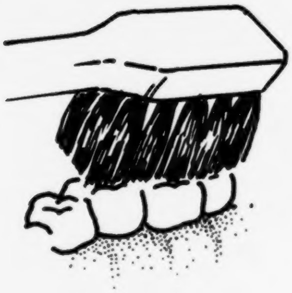
HO 3

Brushing Technique

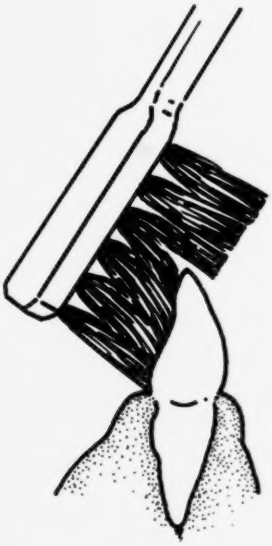
A. Soft toothbrush is positioned at 45° angle to the gum line. Brush is gently agitated in a circular motion without spreading bristles or lifting brush.



B. Proper position for brushing posterior teeth

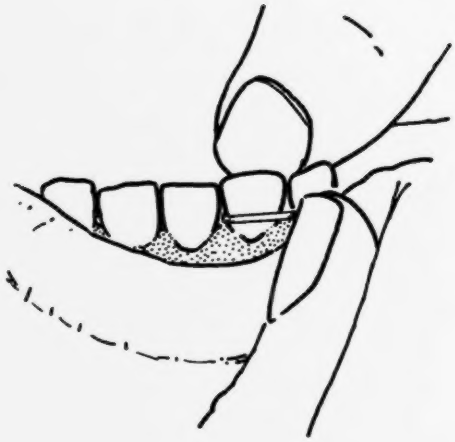


C. Proper position for brushing the lingual surface of anterior teeth

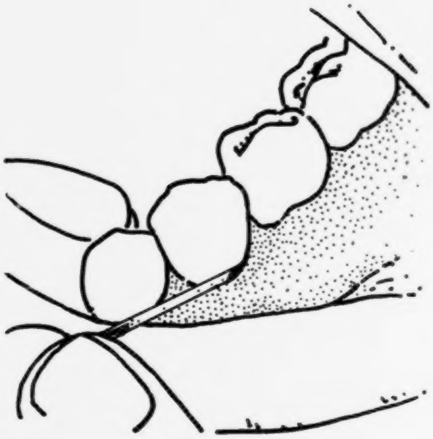


Flossing Technique

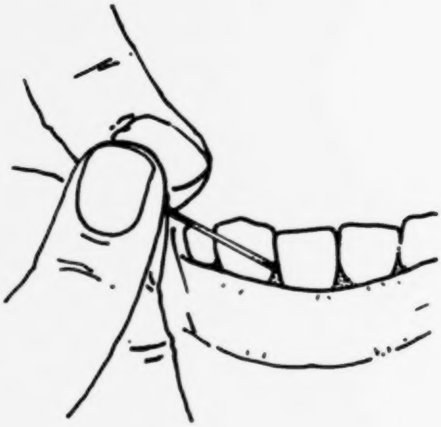
1. Dental floss is carried interproximally and conformed to the curve of a tooth.



2. Dental floss is gently eased beneath the gum line until it meets resistance.



3. Dental floss is moved up and down interproximally and subgingivally in order to remove plaque.



LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

SCOPE OF UNIT:

This unit familiarizes the student with some basic reception and office procedures that may be part of the responsibility of the dental aide. Included in these responsibilities are communication with patients on the telephone and as they arrive for appointments, filing, and inventory control.

INFORMATION TOPIC: IV-1 OR DEMONSTRATION:

TELEPHONE COMMUNICATION
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List five effective telephone techniques.
2. List five ineffective telephone techniques.
3. List six key points for confirming dental appointments.
4. Accurately record telephone messages on a standard form.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Standard Message Pad
2. AS 1: Using Effective Telephone Techniques

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

Hronek, Dennis. Radiology Aide. Columbia, MO: Instructional Materials Laboratory - University of Missouri, 1987.

INTRODUCTION:

The first contact that many patients have with a dental office is over the telephone. It is often necessary for the dental aide to answer the phone, especially in offices with more than one phone line but only one receptionist.

The dental aide must be prepared to deal with any number of situations in the course of a phone call. This lesson describes some of the most frequent types of phone calls that are made to a dental office and explains how to respond to them efficiently and in a professional manner.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

OUTLINE: (Key Points)

I. Techniques of Telephone Communication

A. Effective telephone techniques

1. Be pleasant at all times.

2. Identify the office and yourself to every caller.

   a. Example: "Good afternoon, Dr. Tull's office, this is Karen."

   b. Let the caller know that he/she has the correct number and that the voice at the other end of the line is coming from a PERSON.

3. Speak clearly and listen carefully to what the caller is saying.

4. If it is necessary to put the caller on hold, let him/her know that you are putting them on hold and approximately for how long.

   a. Example: "Mrs. Smith, can you hold for about three minutes?"

   b. After you return to the phone, thank the caller for waiting, Example: "Mrs. Smith? Thank you for waiting, Dr. Tull said you should take two aspirin and call in the morning."

5. Fill out a message including time and date if the caller expects a return call or would like to leave a message.

B. Ineffective telephone techniques

1. Do not express anger, impatience, or frustration, even if the caller is rude or angry.

2. Do not set up dental appointments without having been trained to do so by the dentist or receptionist.

a. Every office operates on a certain time system. It takes training and experience to know how much time is needed for a particular procedure and whether an operatory will be available at any given time.

b. An entire day's schedule can be disrupted by one improperly scheduled appointment.

3. NEVER make any kind of diagnosis over the phone. It is ILLEGAL for the dental aide to even suggest a diagnosis and UNETHICAL to lead any patient to believe that the doctor already knows what the problem might be without an examination and careful consideration of radiographs and other diagnostic tools.

   a. If a patient describes a set of symptoms, write them down and tell the caller that you will relate the information to the doctor.

   b. If the caller asks what you think the problem might be, politely respond that it is up to the doctor to make an assessment of the problem.

4. Do not promise that the doctor will return a call within five minutes, (or within any time frame) or that she or he will return the call at all.

   a. Sometimes the doctor is too busy to return calls until she/he is finished with appointments for the day.

   b. There is no way you can know which calls the doctor will choose to return. Tell the caller that you will relay any messages or requests.

   c. Do not indicate one way or the other whether you think the doctor will return a call or not.

5. Do not place a patient on hold unless you have no other choice.

   a. Most people dislike being put on hold.

   b. Being left on hold for long periods wastes the patient's time, creates feelings of frustration, and makes the patient feel as if he/she is unimportant. (II-1)

II. Confirming Appointments

A. Purpose

1. If a patient forgets a dental appointment, time and money are lost.
    a. Staff members are not productive
    b. Operatories are not being used
2. Most patients appreciate being notified that they have an upcoming appointment, especially if it was made well in advance (at the last six-month checkup).
3. Should a patient indicate that he or she will be unable to keep the scheduled appointment, the patient can be rescheduled and arrangements can then be made to fill the next day's appointment time.

B. Procedure for confirming appointments

1. Appointments are confirmed the day before the scheduled treatment unless the appointment is on a Monday (then they are confirmed on the last working day of the previous week).
2. Notes should be made on patient's chart if they can't be disturbed at work or prefer not to be telephoned at home.
3. If the patient is a child under sixteen years of age, phone the parent or guardian to confirm the appointment.
4. Do not imply that the dental staff thought the patient may fail to show or forget the appointment.
    a. Patients do not like being made to feel irresponsible or forgetful.
    b. Express something to the effect that you are James from Dr. Tull's office and that you are calling to confirm (NEVER use the word, "remind") your appointment for tomorrow at eleven o'clock.
    c. Once the patient confirms, say that you will see him or her tomorrow at eleven or that the staff is looking forward to seeing him/her tomorrow at eleven.

5. If a patient indicates that he/she will be unable to keep the appointment, ask whether he/she would like to reschedule at this time.

6. Make a note on the next day's schedule that the appointment was confirmed.

III. Taking Messages

A. It is a rare occasion that the doctor is available to take a phone call as it comes in, but if you think the doctor may want to take the call, follow these steps:

1. Ask the caller if you may tell the doctor who is calling.

2. Ask the caller if he or she would mind holding while you see if the doctor is available.

3. If the doctor is available to accept the call, thank the caller for waiting and inform him or her that the doctor will be on the line in a moment.

B. More often than not, staff members are just too busy to accept a phone call. In this case a pre-printed message in noticeable color should be used to record messages. A message should include the following information: (TM 1)

1. The name of the person to whom the caller wanted to speak

2. Current date

3. What time the call was received (hour and minute)

4. Name of the person who called (check that spelling is correct)

5. Information regarding whether the caller is a salesperson, patient, etc.

6. Phone number of caller

7. Subject of the call, i.e., free samples from a salesperson, toothache of a patient, etc.

8. Any message the caller may want to leave

9. Your name (the person who took the call)

10. If the call should be returned or if the caller will call again

C. If the caller does not volunteer the necessary information, ask courteously for his/her name, number, etc.

D. Assure the caller that you will relay the information, i.e., "I'll see that she gets this message" or "I'll leave this note on his desk right now." (II-2)

IV. Summary and Conclusion

A. Techniques of telephone communication

B. Confirming appointments

C. Taking messages

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

INTERACTION ITEMS:

1. Have you ever been put on hold without knowing how long the party on the other end would be gone or why you were supposed to wait? If so, how did it make you feel?
2. What would happen if the doctor or any staff member wanted to return a phone call and you forgot to write down the name of the caller? The number of the caller?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Pair students and have them complete Assignment Sheet 1: "Using Effective Telephone Techniques."

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

EVALUATION ITEMS:

1. List five effective telephone techniques.

   a.

   b.

   c.

   d.

   e.

2. List five ineffective telephone techniques.

   a.

   b.

   c.

   d.

   e.

3. List six key points for confirming dental appointments.

   a.

   b.

   c.

   d.

   e.

   f.

Directions: On the standard message forms provided below, transfer the following telephone messages using today's date and the current time.

4. Dr. Smith returned Dr. Tull's call of 7:40 this morning to say that he cannot meet for study club at 4:00 p.m. next Wednesday. Dr. Smith would like Dr. Tull to return his call at 123-4567 before 5:00 p.m. to reschedule the study club.

5. Joan Jones of Acme Dental Supply phoned at 3:00 p.m. to discuss a new product. If the dental office manager does not return the call at 890-1234 by next Monday, she will come by the office for a free demonstration Tuesday at noon.

TO: ______________________

DATE: __________ **TIME:** __________

BY: ______________

☐ Please return call ☐ Telephoned

☐ Will call again ☐ Returned your call

Name of caller: ______________________

of: ______________________

Phone: ______________________

Message: ______________________

____

____

____

TO: ______________________

DATE: __________ **TIME:** __________

BY: ______________

☐ Please return call ☐ Telephoned

☐ Will call again ☐ Returned your call

Name of caller: ______________________

of: ______________________

Phone: ______________________

Message: ______________________

____

____

____

LESSON PLAN: 1

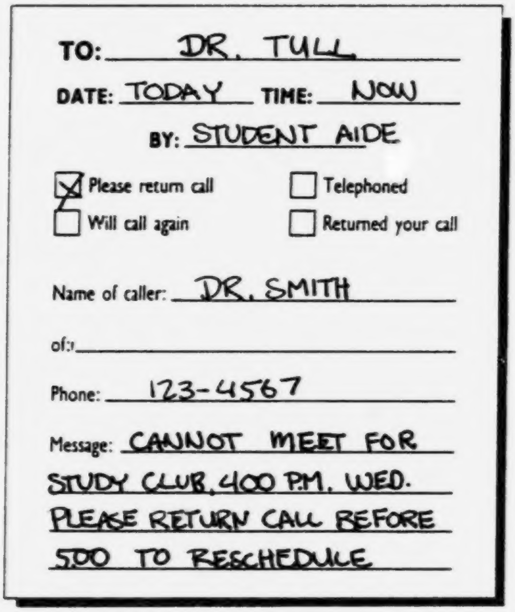
COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

ANSWERS TO EVALUATION ITEMS:

1. a. Be pleasant at all times.
    b. Identify the office and yourself to every caller.
    c. Speak clearly and listen carefully.
    d. If a caller is put on hold, let him/her know how long he/she will be on hold.
    e. Use message forms.
2. a. Do not express anger.
    b. Do not set up appointments without training.
    c. Never make a diagnosis.
    d. Do not promise calls will be returned.
    e. Do not place callers on hold unless you have no choice.
3. a. Confirm the day before scheduled treatment.
    b. Note on patient's chart if they are not to be called.
    c. Phone parent or guardian when confirming child's appointments.
    d. Do not "remind" the patient, just confirm.
    e. If the patient cancels, ask to reschedule.
    f. Note on the next schedule that appointment was confirmed.

4.



TO: DR. TULL

DATE: TODAY TIME: NOW

BY: STUDENT AIDE

☒ Please return call ☐ Telephoned

☐ Will call again ☐ Returned your call

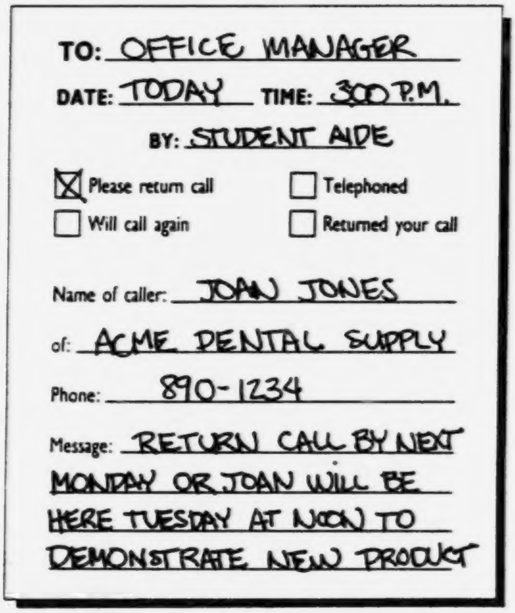
Name of caller: DR. SMITH

of:

Phone: 123-4567

Message: CANNOT MEET FOR STUDY CLUB, 400 P.M. WED. PLEASE RETURN CALL BEFORE 500 TO RESCHEDULE

5.



TO: OFFICE MANAGER

DATE: TODAY TIME: 300 P.M.

BY: STUDENT AIDE

☒ Please return call ☐ Telephoned

☐ Will call again ☐ Returned your call

Name of caller: JOAN JONES

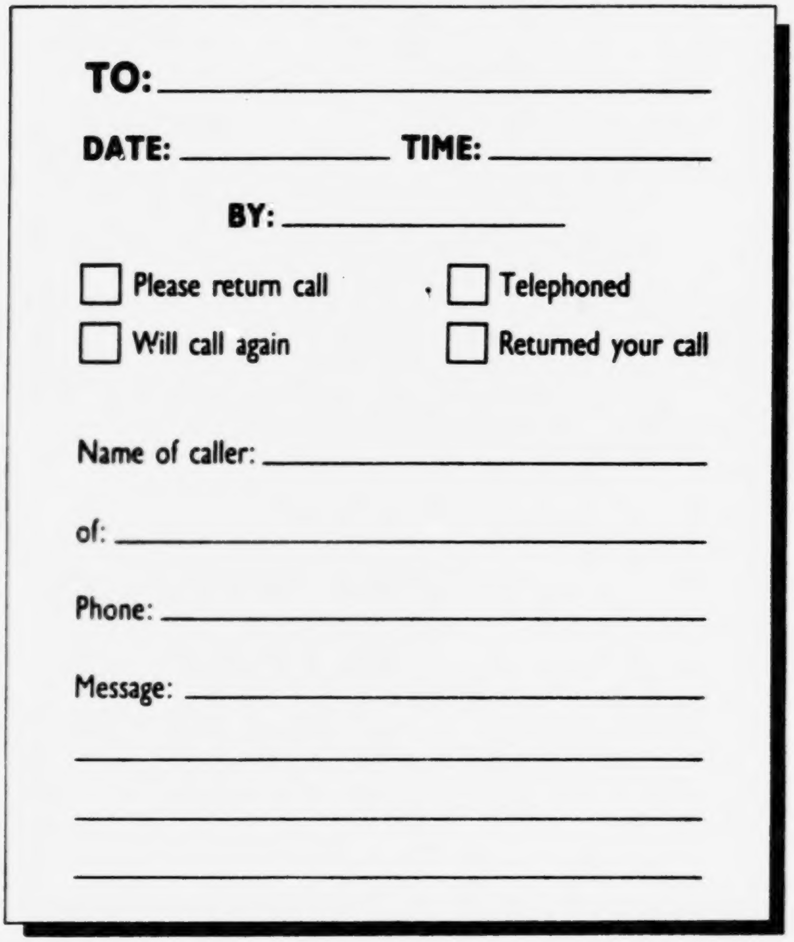
of: ACME DENTAL SUPPLY

Phone: 890-1234

Message: RETURN CALL BY NEXT MONDAY OR JOAN WILL BE HERE TUESDAY AT NOON TO DEMONSTRATE NEW PRODUCT

TM 1

Standard Message Pad



TO: ____________________

DATE: ____________ **TIME:** ____________

BY: ____________

☐ Please return call ☐ Telephoned

☐ Will call again ☐ Returned your call

Name of caller: ____________________

of: ____________________

Phone: ____________________

Message: ____________________

AS 1

ASSIGNMENT SHEET 1 - USING EFFECTIVE TELEPHONE TECHNIQUES

Directions: Choose one of the following scenarios and have your lab partner be the caller while you respond to the call. Then choose another scenario, change places, and act the part of the caller while your lab partner responds to the call.

Scenario 1: The phone rings and the dental aide answers the call by identifying the office and stating his/her name. The caller responds by stating that this is Luigi and he wants to talk to the doctor.

Scenario 2: The phone rings and the dental aide answers the call by identifying the office and stating his/her name. The caller responds by identifying himself as a patient and stating that he has a big hole in one of his back teeth and that the tooth has hurt constantly for three days. He wants to stop by today at two o'clock to have the tooth extracted.

Scenario 3: The phone rings and the dental aide answers the call by identifying the office and stating his/her name. The caller responds that she is a patient and is very angry that the filling Doctor Tull placed last week fell out as she was eating a sticky popcorn ball. She wants him to come to the phone RIGHT NOW or she will come to the office personally and cause a scene.

Scenario 4: The phone rings and the dental aide answers the call by identifying the office and stating his/her name. The caller responds by identifying himself as a patient and stating that his cheek and neck are swollen on the right side. Does the dental aide think it is an abscess; and if so, will aspirin get rid of it?

Scenario 5: The phone rings and the dental aide answers the call by identifying the office and stating his/her name. The caller identifies herself as a salesperson for Acme Dental Supply and asks that the doctor return her call before 4:00 pm.

Scenario 6: The phone rings and the dental aide answers the call by identifying the office and stating his/her name. The caller identifies himself as a patient and would like to make an appointment to have a bridge constructed.

ANSWERS TO ASSIGNMENT SHEET 1 - USING EFFECTIVE TELEPHONE TECHNIQUES

Students should be encouraged to make the dental aide's job as difficult as possible. Points can be awarded for challenging the dental aide to remain professional and courteous as well as for maintaining a courteous and professional attitude on the aide's part. Allow the students playing the part of the caller to be as creative and obnoxious as possible but discourage the student playing the part of the respondent from losing his or her temper or forgetting a name or number. Provide a preprinted message sheet for each student responding to a call.

Scenario 1: The respondent playing the part of the dental aide should procure Luigi's full name and number as well as the general nature of the inquiry.

Scenario 2: The respondent playing the part of the dental aide should refer the patient to the receptionist for an appointment.

Scenario 3: The respondent playing the part of the dental aide should be empathetic but not apologizing and firmly tell the patient that she will relay the message to the doctor and transfer her to the receptionist for an appointment but that the doctor will not be available to see her if she stops by without an appointment.

Scenario 4: The respondent playing the part of the dental aide should not be coerced into giving any opinion as to the state or condition of the patient's tooth at all but manage to transfer the patient to the receptionist for an appointment as soon as possible.

Scenario 5: The respondent playing the part of the dental aide should not give any indication as to whether the dentist will return the call by four o'clock or any other time. The aide should courteously take down the required information and assure the caller that the message will be relayed.

Scenario 6: The respondent playing the part of the dental aide should politely have the patient hold while he or she transfers the patient to the receptionist for an appointment.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

SCOPE OF UNIT:

This unit familiarizes the student with some basic reception and office procedures that may be part of the responsibility of the dental aide. Included in these responsibilities are communication with patients on the telephone and as they arrive for appointments, filing, and inventory control.

INFORMATION TOPIC: IV-2 OR DEMONSTRATION:

COMMUNICATING WITH PATIENTS AND VISITORS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Describe the basic procedure for greeting patients and visitors as they enter the dental office.
2. List three considerations for patients with special needs.
3. Describe three approaches that can be taken to soothe fearful or anxious patients.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting, 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

The reception that patients and visitors receive upon their arrival at the dental office is a reflection of the attitude of the entire office.

It is important for the dental aide to develop some skills in dealing with the many kinds of people who may be visiting the dental office. This lesson deals with situations that may be encountered by the dental aide in the course of greeting patients and visitors.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

OUTLINE: (Key Points)

I. Greeting Patients

   A. If you do not know the patient or visitor, ask politely if you can help him/her.

   B. If the person is a patient who has an appointment, explain how long it will be (approximately) before he/she will be ushered into an operatory.

   C. If the person is a visitor for the doctor or a staff member and has scheduled a time to see the doctor or staff member, ask the visitor to take a seat while you inform the doctor or staff member that he/she is waiting. Upon your return, tell the visitor approximately how long it will be before he/she can be seen.

   D. If the person is a visitor without an appointment, ask the visitor to take a seat while you see if the doctor or staff member he/she wishes to see is available.

      1. If the doctor or staff member can see the individual, tell him/her approximately how long it will be. If the visitor chooses not to wait, offer to take a message or provide note paper and an envelope for the visitor to leave a message.

      2. If the doctor or staff member cannot see the visitor, politely explain the situation and offer to take a message or allow the visitor to leave one with note paper and envelope that you provide.

II. Individuals With Special Needs

   A. Special needs can include:

      1. Paraplegia

      2. Quadriplegia

      3. Hearing impaired

      4. Visually impaired

5. Vocally impaired

6. Mentally retarded/developmentally disabled (MRDD) individuals

7. Mental/emotional factors

8. Some geriatrics

B. Considerations for special needs

1. Do not treat patients or visitors with special needs of any sort as if they are an inconvenience.

2. Do not make a "show" of accommodating a patient or visitor. Treat any handicapped person with the dignity and respect you would allow any other patient.

3. Discuss office procedures for dealing with special needs patients and visitors with dental office staff and follow those procedures.

4. Always remember to imagine yourself in the other person's position and consider how you would want to be treated in the same situation.

III. Interacting With Fearful or Anxious Patients

A. The child

1. If a child's attention is divided between the dentist and staff and the parent or guardian standing by in the operatory, it may be necessary to ask the parent or guardian to leave the room.

a. Children have a tendency to look to the parent or guardian for substantiation for what they are being told "by those strange people who want to put their fingers in my mouth."

b. It will not be a psychological necessity for the child to place trust in the dental health team as long as the parent or guardian is present.

c. Most children know that the parent or guardian would not leave them with someone who would do them harm but if the parent or guardian stays close by, they suspect that the parent or guardian does not trust the dental health team and is there to protect the child.

2. Remember that CHILDREN ARE PEOPLE!

   a. Do not tower above a child as you introduce yourself and explain procedures. It is perfectly acceptable to sit cross-legged on the floor in order to be at eye level as you introduce yourself and explain what you are going to do that day.

   b. Explain everything that you are going to do and let the child ask any questions he or she wishes. Sometimes children's fears are as uncomplicated as merely being afraid of a chair that moves in so many different directions.

   c. Do not use psychological catchwords with any patient, adult or child, fearful or not, such as:

      (1) Needle - acceptable substitute is "syringe"

      (2) Drill - acceptable substitute is "handpiece"

      (3) Shot - acceptable substitute is "injection"

      (4) Pain - acceptable substitute is "discomfort"

   d. Try to identify and deal with any fear the patient (adult or child) may be feeling.

B. The child in all of us

1. The oral cavity is an intimate and sensitive area for most patients and it takes a great deal of trust for any patient to feel comfortable about allowing dental personnel access to this part of the body.

2. Some adult patients still exhibit fear and anxiety due to negative experiences they had as young children.

3. Never lose patience with a patient who is fearful. Try to deal with their fears openly. Do not treat any patient as if his/her fears are unreasonable or inconvenient for the dental health team. The only way that any of us can overcome a fear is to confront it with a positive attitude and support from those who understand our fear reaction. It

is important to realize that the anticipation of something we fear is usually much worse than the actual experience.

4. The greatest fear for most patients is the fear of the unknown. Explain what is going to happen and what the patient might feel during the procedure before the treatment is initiated.

5. Very few procedures in normal dental care are painful but a few can be uncomfortable. Do not ask a patient whether or not something hurts; they will invariably assume that YOU think it should hurt, and that assumption will affect the patient's perception of pain. A better assessment technique would be to ask, "Are you comfortable?"

IV. Summary and Conclusion

A. Greeting patients

B. Individuals with special needs

C. Interacting with fearful or anxious patients

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

INTERACTION ITEMS:

1. How would you feel if you were in a strange place with no idea of what was going to happen, and a person three feet taller than you grabbed you by the hand, sat you in a chair and started putting things in your mouth? Would you be frightened? Would you want to rebel?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

Read the following scenarios as a class and discuss possible ways of dealing with each situation.

1. A man enters the dental office and states that he wants to see Susan, the dental assistant. After determining that the man doesn't have an appointment and learning his name, what procedure would the aide follow? What if the man insists on seeing Susan even though she is too busy to see him now? What if Susan can see him but it will be twenty minutes?
2. A six-year-old patient is having his first filling and will not open his mouth, even though his mother, standing nearby, persistently tells him to hold still and open his mouth. What procedure would the dental staff most likely follow?
3. A forty-year-old woman has come in to have three fillings done, but once seated in the chair, bursts into tears and confesses that she is deathly afraid of dentists. She knows that the fillings need to be done but she doesn't know if she'll be able to maintain her composure. What can the dental health team do to alleviate some of this patient's anxiety?

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

EVALUATION ITEMS:

1. List four points in the procedure for greeting patients and visitors to the dental office.

   a.

   b.

   c.

   d.

2. List three considerations the dental aide should make for patients with special needs.

   a.

   b.

   c.

3. Describe three approaches that can help alleviate the anxiety of fearful patients.

   a.

   b.

   c.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

ANSWERS TO EVALUATION ITEMS:

1. a. If you do not know the patient or visitor, ask politely if you can help him/her.
   b. If the person is a patient, explain how long it will be (approximately) before he/she will be ushered into an operatory.
   c. If the person is a visitor for the doctor or a staff member and has scheduled a time to see the doctor or staff member, ask the visitor to take a seat while you inform the doctor or staff member that he/she is waiting. Upon your return. tell the visitor approximately how long it will be before he/she can be seen.
   d. If the person is a visitor without an appointment, ask the visitor to take a seat while you see if the doctor or staff member he/she wishes to see is available.
      1. If the doctor or staff member can see the individual, tell him/her approximately how long it will be. If the visitor chooses not to wait, offer to take a message or provide note paper and an envelope for the visitor to leave a message.
      2. If the doctor or staff member cannot see the visitor, politely explain the situation and offer to take a message or allow the visitor to leave one with note paper and envelope that you provide.

2. The student may list any three of the following:
   a. Do not treat patients or visitors with special needs of any sort as if they are an inconvenience.
   b. Do not make a "show" of accommodating a patient or visitor. Treat any handicapped person with the dignity and respect you would allow any other patient.
   c. Discuss office procedures for dealing with special needs patients and visitors with the dental office staff and follow those procedures.
   d. Always remember to imagine yourself in the other person's position and consider how you would want to be treated in the same situation.

3. The student may list any three of the following:
    a. Do not lose patience with a patient who is fearful--deal with fear openly.
    b. Explain what is going to happen before treatment is initiated.
    c. Do not ask if the patient is experiencing pain--ask if he/she is comfortable.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

SCOPE OF UNIT:

This unit familiarizes the student with some basic reception and office procedures that may be part of the responsibility of the dental aide. Included in these responsibilities are communication with patients on the telephone and as they arrive for appointments, filing, and inventory control.

INFORMATION TOPIC: IV-3 OR DEMONSTRATION:

MAINTAINING THE RECEPTION AREA, RESTROOMS, AND FILING SYSTEM
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List two considerations necessary to provide a comfortable reception area for the office visitor or patient.
2. List three special types of supplies that should be provided for the patient's use in a dental office restroom.
3. Arrange patient names in alphabetical order for filing purposes.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: File Folder
2. AS 1: Alphabetizing Names for Filing

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting, 3rd ed. Philadelphia: W.B. Saunders Co., 1985.

INTRODUCTION:

There are many dynamics that make a dental office run smoothly. This lesson is an overview of some of the additional skills and knowledge that will make the dental aide a valuable addition to the staff. These skills include the ability to recognize factors in the general environment that can make the patient's visit more enjoyable and a knowledge of basic filing principles.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

OUTLINE: (Key Points)

I. The Reception Area

  A. Keep the reception area CLEAN!

  B. Make certain that periodicals and other reading material are current, in good condition and arranged attractively.

  C. It is a good idea to occasionally ask those patients who are waiting if they are comfortable, to determine if anything is being overlooked.

II. The Restroom

  A. Patients use the restroom to freshen up before and after dental work. Special supplies for that purpose should be provided.

    1. Some offices place individually-wrapped moist towelettes in a small basket for patients who want to wipe their faces after dental work.

    2. Mouthwash and disposable cups should be available in restrooms.

    3. A box of facial tissues should be available for patient use.

  B. The condition of the restroom is a reflection of the attitude the office has adopted toward cleanliness and order. Check the restroom periodically throughout the day to make certain that it is tidy and sufficiently stocked. (II-1)

III. Filing

  A. As in any office, filing and pulling files is a never-ending task. The dental aide can be a big help in keeping the filing current.

  B. It may, at first, seem like a simple problem, but when a chart is misfiled it requires valuable time and energy to search for it.

C. Basic Rules for Filing

1. All folders are filed in alphabetical order

2. Arrange files in roughly alphabetical order before you begin to file. (HO 1)

3. When a folder is pulled for just a moment or two, use an "out guide" which works on the same principle as a bookmark, to mark the place from which the file was taken.

4. Many offices use a filing system that employs stickers to denote the first and second letter of the patient's last name, color-coded so that it is not necessary to search through all the O's to retrieve a file for "O'Malley" or "Orwell".

IV. Summary and Conclusion

A. The reception area

B. The restroom

C. Filing

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

INTERACTION ITEMS:

1. Can you think of any other ways the reception areas and restrooms of dental offices can be made more comfortable for the patient?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Complete Assignment Sheet 1: "Alphabetizing Names for Filing."

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

EVALUATION ITEMS:

1. List two considerations necessary to provide a comfortable reception room.

   a.

   b.

2. List three special types of supplies that should be available in a dental office restroom.

   a.

   b.

   c.

3. List the following names in alphabetical order.

   Nancy Braun
   Bryan Adams
   Michelle Ortega
   Lucy Brown
   Morton Norton
   Neil Young
   Lester Buschmann
   John Price
   Neal Yung
   Marvin Madison
   Linda Bushman
   Goldie Growls
   John Gooden
   Jean Schaeffer
   June Schaefer

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT IV : BASIC OFFICE PROCEDURES

ANSWERS TO EVALUATION ITEMS:

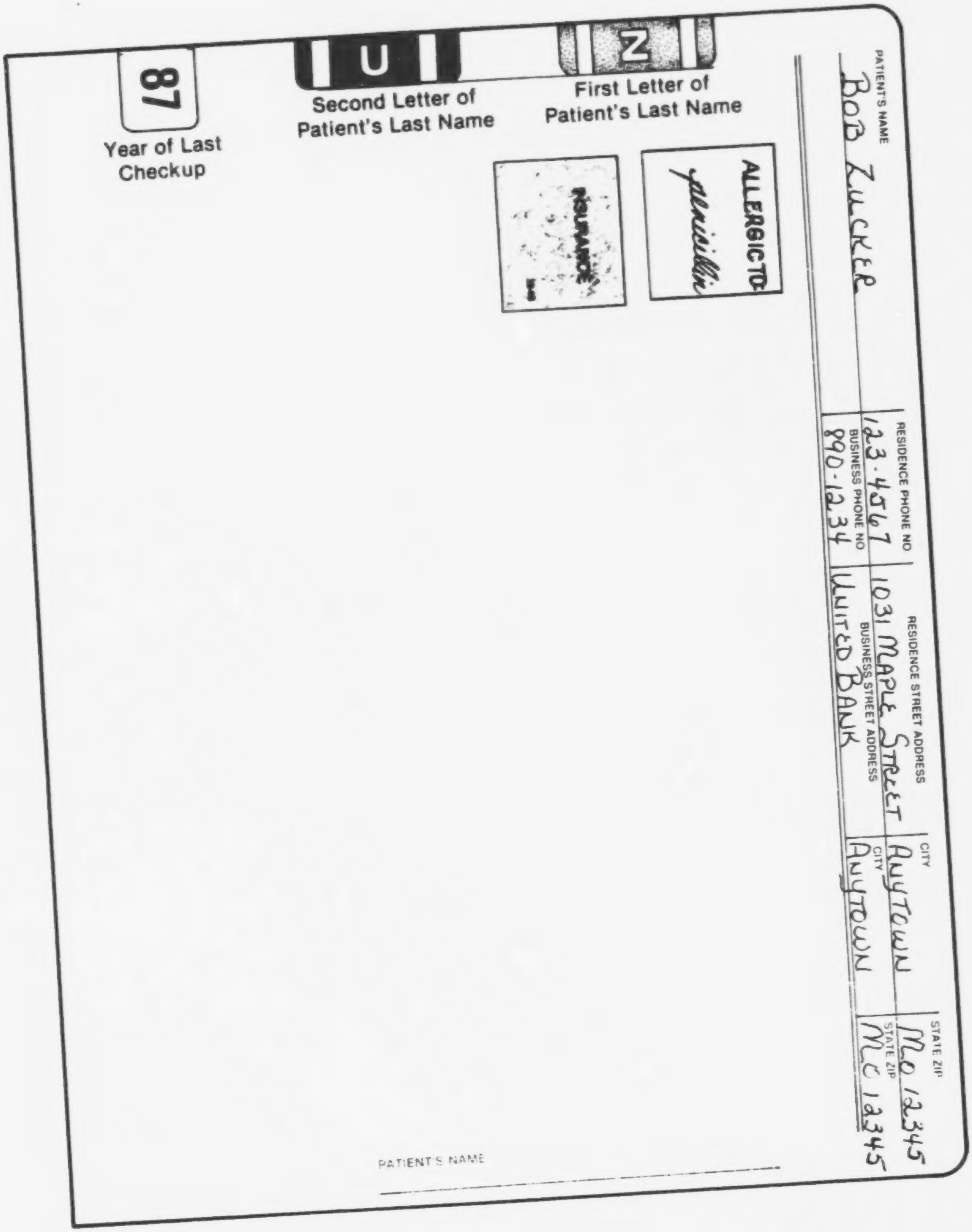
The student may list any two of the following:

1. a. Reception area must be kept clean.
   b. Periodicals and reading material must be current, in good condition and attractively arranged.
   c. Occasionally ask patients who are waiting if they are comfortable.

2. a. Individually-wrapped moist towelettes for freshening up
   b. Mouthwash and disposable cups
   c. Facial tissue

3. Adams, Bryan
   Braun, Nancy
   Brown, Lucy
   Buschmann, Lester
   Bushman, Linda
   Gooden, John
   Growls, Goldie
   Madison, Marvin
   Norton, Morton
   Ortega, Michelle
   Price, John
   Schaefer, June
   Schaeffer, Jean
   Young, Neil
   Yung, Neal

File Folder



87

Year of Last Checkup

U

Second Letter of Patient's Last Name

Z

First Letter of Patient's Last Name

INSURANCE

ALLERGIC TO
penicillin

PATIENT'S NAME
Bob Zucker

RESIDENCE PHONE NO
123-4567

BUSINESS PHONE NO
890-1234

RESIDENCE STREET ADDRESS
1031 Maple Street

BUSINESS STREET ADDRESS
United Bank

CITY
Anytown

CITY
Anytown

STATE ZIP
MO 12345

STATE ZIP
MO 12345

PATIENT'S NAME

AS 1

ASSIGNMENT SHEET 1 - ALPHABETIZING NAMES FOR FILING

Directions: Arrange the following names in alphabetical order in the space below.

Jane Doe
Louis Smith
Sally Donaldson
Liz Jones
Henery Alberts
Joe Franks
Sarah Barnes
Bill Elway
Joey Frank
Louis Smith, Jr.
Ann Canfield
George Granger
Ellen Marks
Orville Taylor
Georgia Greanger
Ron McDonald
Karen Heckman
Sue Waterson
Randy MacDougall
William Dent

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________
9. ______________________________
10. ______________________________
11. ______________________________
12. ______________________________
13. ______________________________
14. ______________________________
15. ______________________________
16. ______________________________
17. ______________________________
18. ______________________________
19. ______________________________
20. ______________________________

ANSWERS TO ASSIGNMENT SHEET 1 - ALPHABETIZING NAMES FOR FILING

Directions: Arrange the following names in alphabetical order in the space below.

Jane Doe
Louis Smith
Sally Donaldson
Liz Jones
Henry Alberts
Joe Franks
Sarah Barnes
Bill Elway
Joey Frank
Louis Smith, Jr.
Ann Canfield
George Granger
Ellen Marks
Orville Taylor
Georgia Greanger
Ron McDonald
Karen Heckman
Sue Waterson
Randy MacDougall
William Dent

1. Alberts, Henry
2. Barnes, Sarah
3. Canfield, Ann
4. Dent, William
5. Doe, Jane
6. Donaldson, Sally
7. Elway, Bill
8. Frank, Joey
9. Franks, Joe
10. Granger, George
11. Greanger, Georgia
12. Heckman, Karen
13. Jones, Liz
14. McDonald, Ron
15. MacDougall, Randy
16. Marks, Ellen
17. Smith, Louis
18. Smith, Louis, Jr.
19. Taylor, Orville
20. Waterson, Sue

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

SCOPE OF UNIT:

Dental offices vary considerably in design and equipment that is used. However, they are similar in the respect that all general practices require certain basic instruments and equipment to function. This unit will discuss the treatment room and its contents to orient the dental aide to some of the routine clinical procedures.

INFORMATION TOPIC: V-1 OR DEMONSTRATION:

DENTAL OPERATORY EQUIPMENT
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List the four major pieces of dental operatory equipment.
2. Identify the function of the three adjustment controls on a dental patient's chair.
3. Identify component parts of the operator's unit.
4. Identify component parts of the assistant's unit.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Dental Operatory Layout
2. TM 2: Dental Patient's Chair
3. TM 3: Oral Evacuation Attachments

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W. B. Saunders, Co., 1985.

INTRODUCTION:

Dental operatories, which are also referred to as treatment rooms, are the dynamic areas of the dental office. It is here that all dental procedures are performed. The equipment in them is important in maximizing efficiency and maintaining a smooth patient flow throughout the day. Today we will discuss some of the essential equipment.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

OUTLINE: (Key Points)

I. The Dental Operatory (TM 1)

  A. Also called treatment room

  B. Site where procedures are performed

  C. Contains equipment for patient treatment

    1. Dental patient chair

    2. Dental stools

    3. Dental units

    4. Dental x-ray unit

II. Dental Patient Chair - Lounge Type (TM 2)

  A. Chair adjustment controls

    1. Backrest control/tilt control - positions patient from a sitting position to a reclining position

    2. Footrest control - raises and lowers foot position

    3. Base control - raises and lowers the entire chair (II-1)

  B. Maintenance/cleaning

    1. The upholstered and the enameled surfaces of the dental chair should be disinfected after every patient treatment, before the next patient is admitted to the operatory.

    2. Clean and oil mechanical parts regularly, following manufacturer's recommendations.

III. Dental Stools

  A. Operator's

  B. Assistant's

IV. Dental Units

- A. Operator's unit
  - 1. Handpieces
    - a. High speed
    - b. Low speed
  - 2. Air/water syringe
  - 3. Ultrasonic scaler
- B. Assistant's unit
  - 1. Air/water syringe (II-2)
  - 2. Oral evacuation attachments (TM 3)
    - a. High volume evacuator
    - b. Saliva ejector
  - 3. Cuspidor/automatic rinse feature for patient

V. Dental X-Ray Unit

- A. Tube head of the x-ray unit
- B. Control box
  - 1. Milliamperage selector
  - 2. Kilovoltage selector
  - 3. Electronic timer
- C. View box for radiographs

VI. Miscellaneous Equipment

- A. Operatory cabinets
- B. Operating light

VII. Summary and Conclusion

- A. The dental operatory
- B. Dental patient chair - lounge type
- C. Dental stools
- D. Dental units
- E. Dental x-ray unit
- F. Miscellaneous equipment

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

INTERACTION ITEMS:

1. Why do you think it would be necessary to be able to adjust the patient's chair in three different positions?
2. Why would the operator and the assistant both have an air/water syringe?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: __1__

COURSE TITLE: DENTAL AIDE

UNIT __V__: OPERATIVE EQUIPMENT AND PROCEDURES

EVALUATION ITEMS:

1. The four major pieces of equipment in a dental operatory include:

   a.

   b.

   c.

   d.

2. Define the function of the following adjustments on a patient's chair.

   a. Backrest control -

   b. Footrest control -

   c. Base control -

From the list provided place "O" in the space provided for items on the operator's unit or "A" for the items found on the assistant's unit. Some equipment may be found in both units (indicate by O A) or neither unit (leave space blank).

3. ____ Stools

4. ____ Handpieces

5. ____ Air/water syringe

6. ____ Ultrasonic scaler

7. ____ Cuspidor

8. ____ High volume evacuator

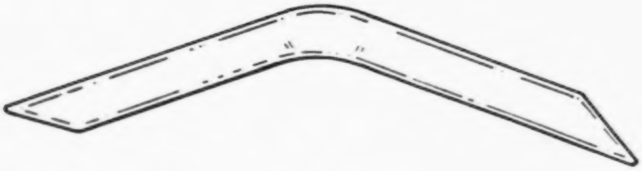
9. ____ X-ray control box

10. ____ Cuspidor

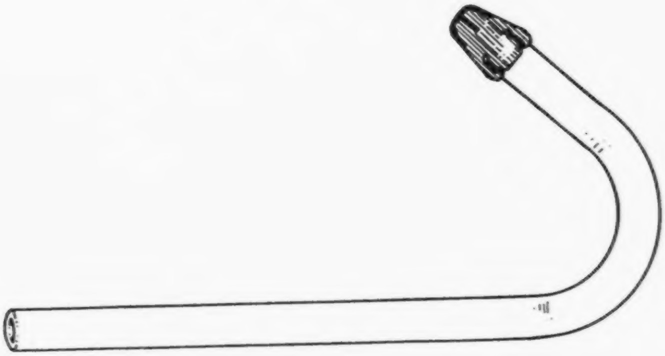
11. ____ X-ray tube head

12. ____ Saliva ejector

Name the following types of oral evacuation tips.



13. ______________________________



14. ______________________________

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

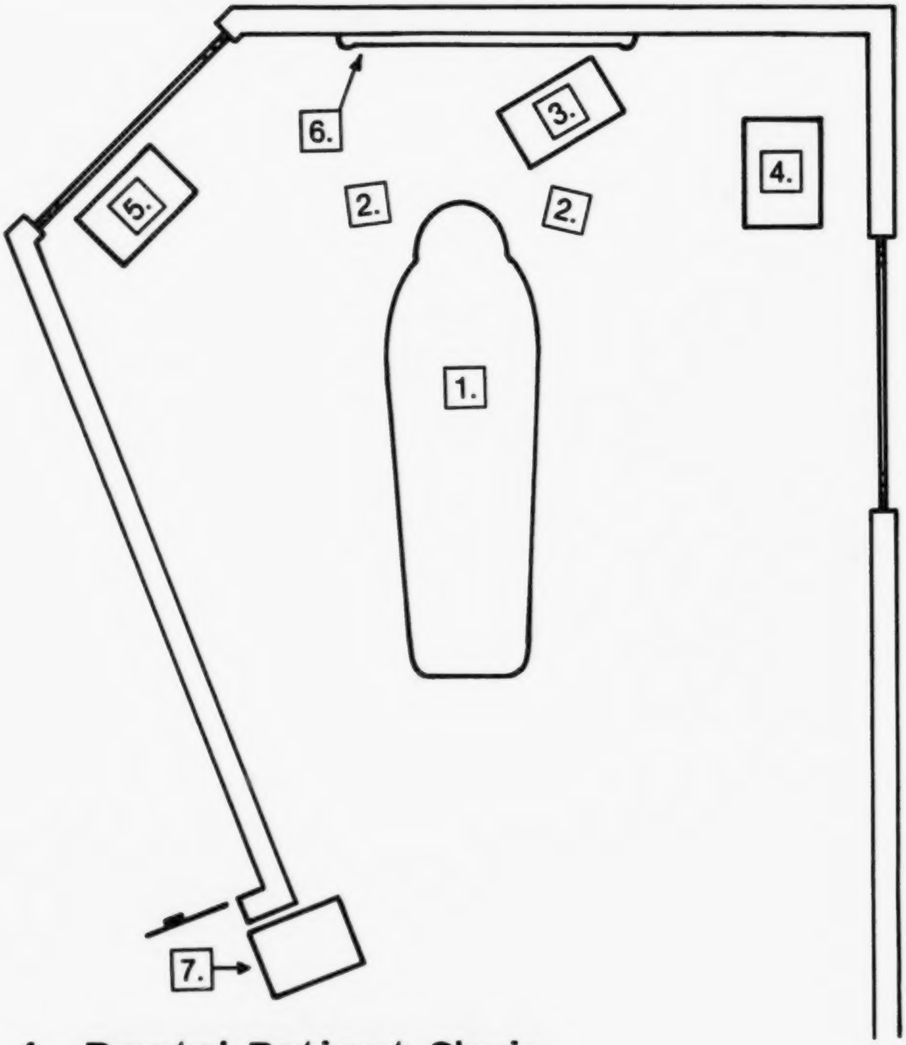
ANSWERS TO EVALUATION ITEMS:

1. a. Dental patient chair
   b. Dental stools
   c. Dental units
   d. Dental x-ray unit

2. a. Positions patient from sitting to reclining position
   b. Raises and lowers foot position
   c. Raises and lowers entire chair

3. O A
4. O
5. O A
6. O
7. A
8. A
9.
10. A
11.
12. A
13. High volume evacuator tip
14. Saliva ejector tip

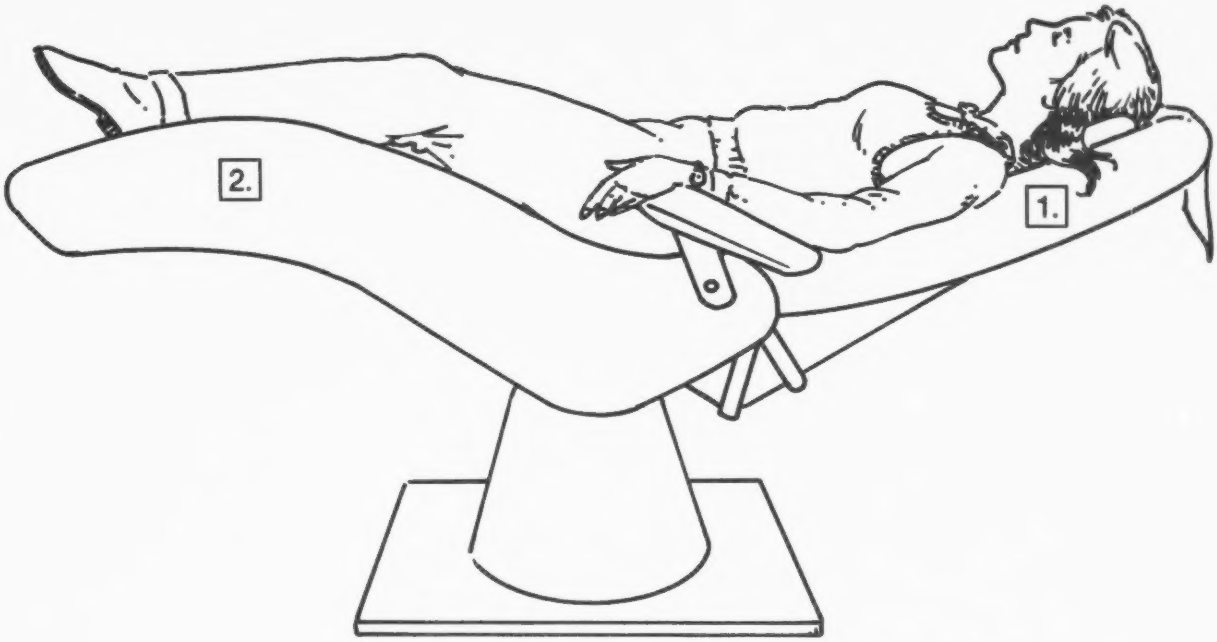
Dental Operatory Layout



1. Dental Patient Chair
2. Operator's/Assistant's Stools
3. Assistant's Unit
4. Head of X-Ray Unit
5. Operator's Unit
6. X-Ray View Box
7. X-Ray Control Box

TM 2

Dental Patient Chair

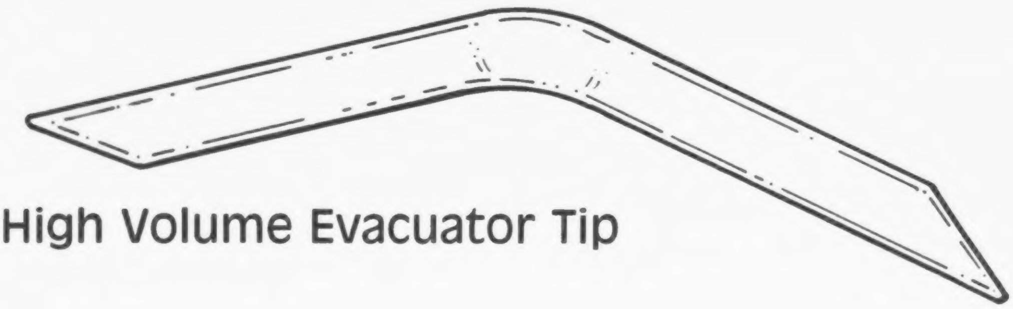


1. Backrest
2. Footrest

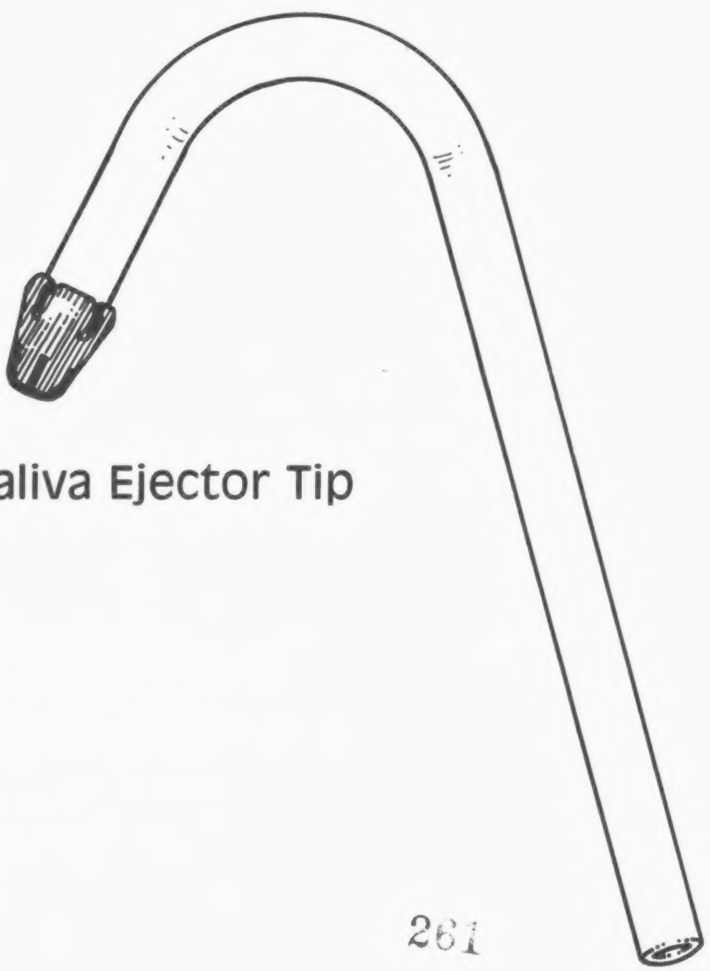
The controls for adjusting the backrest, footrest, and for raising and lowering the chair vary from one manufacturer to another, but are commonly found on the slender headrest part of the chair.

TM 3

Oral Evacuation Attachments



High Volume Evacuator Tip



Saliva Ejector Tip

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

SCOPE OF UNIT:

Dental offices vary considerably in design and equipment that is used. However, they are similar in the respect that all general practices require certain basic instruments and equipment to function. This unit will discuss the treatment room and its contents to orient the dental aide to some of the routine clinical procedures.

INFORMATION TOPIC: OR DEMONSTRATION: V-2

SEATING AND DISMISSAL OF A DENTAL PATIENT
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Seat a patient according to the steps of procedure.
2. Dismiss a patient according to the steps of procedure.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Dental patient chair
2. Dental light
3. Plastic apron
4. Dental napkin
5. Napkin clip
6. Bactericidal agent
7. 2x2 gauze (to apply bactericidal agent)
8. Soap
9. Towels (to dry hands)

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Spahn, et al. Operative Dental Procedures for Dental Auxiliaries. St. Louis: C.V. Mosby Company, 1981.

INTRODUCTION:

The seating and positioning of the patient is a very important role of the dental auxiliary, for it is this procedure that first introduces the patient to the operatory. Being confident and making the patient feel at ease is an essential part of seating the dental patient.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT V : INFECTION CONTROL

STEPS OF PROCEDURE:

1. Apply bactericidal agent to all areas in which contact with patient will be made.

2. Adjust dental patient chair and light to correct position for seating patient.

   a. Place seat at appropriate height (at knees).

   b. Adjust headrest or move it out of the way.

   c. Place light in correct position (out of way).

Seating Patient

NOTE: Converse with patient during seating and dismissal procedure to put him/her at ease. Explain what you are doing.

3. Escort patient from reception area to operatory.

4. Direct patient to the chair.

5. Position headrest (if applicable).

6. Gradually raise height of chair and lower back of chair and foot tilt until patient is comfortable (approximately 45° angle).

   NOTE: This step may be performed later on by the doctor or the dental hygienist.

7. Wash hands.

8. Place plastic apron over patient.

9. Place dental napkin over apron on patient.

10. Place light within reach of operator.

Dismissing Patient

11. Remove dental napkin and apron from patient.

12. Raise chair back and foot tilt and lower chair height.

    NOTE: Steps 11 and 12 may be performed by the doctor or the dental hygienist following treatment/procedure.

13. Place light out of patient's way.

14. Escort patient out of operatory.

SUMMARY AND CONCLUSION

1. Ask interaction items.

2. Review steps of procedure.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT V : INFECTION CONTROL

INTERACTION ITEMS:

1. Why do you think it is important to have the chair at the correct height for the patient as he/she is being seated?

2. Why is it essential to wash your hands after adjusting the chair?

3. Why would you remove the dental napkin before the patient is raised upright in the chair?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Instructor demonstrates procedures.

2. Students practice procedures.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

EVALUATION ITEMS: NAME OF STUDENT:____________________

SEATING AND DISMISSAL OF DENTAL PATIENT

EQUIPMENT

1. Dental chair
2. Dental light
3. Plastic apron
4. Dental napkin
5. Napkin clip
6. Bactericidal agent
7. 2x2 gauze
8. Soap
9. Towels

DID THE STUDENT	YES	NO
1. Apply bactericidal agent to all areas in which contact with the patient will be made.		
2. Adjust chair and light to correct position:		
a) Seat at appropriate height		
b) Headrest out of the way		
c) Light in correct position (out of way)		
Seating Patient 3. Escort patient from reception area and direct to the chair.		
4. Adjust headrest (if applicable).		
5. Gradually raise height of chair and lower back of chair and foot tilt until patient is comfortable (approximately 45° angle).		
6. Wash hands.		
7. Place plastic apron over patient.		
8. Place dental napkin on patient.		
9. Place light within reach of operator.		

DID THE STUDENT	YES	NO
Dismissing Patient 10. Remove napkin and apron.		
11. Raise chair back and foot tilt and lower chair height.		
12. Place light out of patient's way.		
13. Escort patient out of operatory.		

The student has satisfactorily completed the procedure "SEATING AND DISMISSAL OF DENTAL PATIENT" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT V: OPERATIVE EQUIPMENT AND PROCEDURES

SCOPE OF UNIT:

Dental offices vary considerably in design and equipment that is used. However, they are similar in the respect that all general practices require certain basic instruments and equipment to function. This unit will discuss the treatment room and its contents to orient the dental aide to some of the routine clinical procedures.

INFORMATION TOPIC: V-3 OR DEMONSTRATION:

BASIC DENTAL PROCEDURES
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List and describe three types of records needed in a complete diagnosis.
2. List the five components of a case presentation of treatment plan.
3. List the four basic procedures performed in a general dentistry practice.
4. Identify three indications for removal of a tooth.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Anderson, Pauline. The Dental Assistant. 5th ed. Albany, NY: Delmar Publishers, Inc., 1987.

Berry, Thomas, et al. Operative Dentistry Procedures for Dental Auxiliaries. St. Louis: C. V. Mosby Company, 1981.

Chasteen, Joseph. Essentials of Clinical Dental Assisting. 3rd ed. St. Louis: C. V. Mosby Company, 1984.

INTRODUCTION:

There are many facets of work in a dental office. Today we will discuss four of the most common clinical procedures performed in a general dentist practice.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT V: OPERATIVE EQUIPMENT AND PROCEDURES

OUTLINE: (Key Points)

I. Types of Dental Records

  A. Medical history - a record of patient's past and present physical condition; includes information regarding medications he/she is taking along with allergy history

  B. Dental history - information about past dental experiences (II-1)

  C. Oral exam - to recognize, describe, and record any deviation from normal or condition of concern

    1. Chart oral conditions

    2. Expose necessary radiographs

    3. Study models (optional)

    4. Photographs (optional)

II. Case Presentation of Treatment Plan

  A. Diagnosis of current conditions

  B. Prognosis of what needs to be done

  C. Treatment plans, description and sequence in which treatment will be done

  D. Fee estimate of cost for treatment

  E. Financial arrangements

III. Basic Dental Procedures

  A. Oral examination - See I.C. 1-4 above

  B. Amalgam procedure

    1. Amalgam restoration - commonly referred to by the public as "silver fillings" but is actually an alloy consisting of mercury and another metal or metals; is one of the most common restorative materials used in dentistry today

2. Amalgam may be used as restorative material on all surfaces of the posterior teeth of permanent and primary dentition (II-2)

3. Amalgam is used occasionally to prepare a sound base for a tooth, prior to the preparation of a crown restoration. This is called an amalgam "build up."

4. Summary of amalgam procedure

   a. Administration of local anesthetic

   b. Preparation of the cavity preparation

   c. Filling the prep with necessary bases and amalgam

   d. Carving and/or finishing the restoration

C. Composite/esthetic procedure

1. There is a demand for esthetics in dental restorations when placed in a readily visible area. A composite resin is a restorative material commonly used in anterior teeth that is of a neutral shade that matches the corresponding tooth shade for esthetic purposes.

2. There are two major categories of composite resin materials used in esthetic restorations

   a. Ultraviolet or visible light cured

   b. Chemical reaction, base and catalyst materials that set up when mixed together

3. Summary of composite procedure

   a. Administration of local anesthetic

   b. Preparation of the cavity preparation

   c. Etching and bonding of prepared cavity

   d. Placement of base and filling material

   e. Finishing of the restoration

D. Surgical removal of teeth (exodontics)

1. Indications for surgical removal of teeth

a. Teeth that are carious (decayed) and cannot be restored by operative procedures

b. Removal to provide space in the arch for orthodontic treatment

c. Teeth without sufficient bony support

2. Summary of exodontic procedure

a. Administration of local anesthetic

b. The tooth is luxated (dislocated) to compress the bone and enlarge the socket

c. Actual surgical removal of the tooth

d. Placement of sutures (if necessary) (II-3)

e. Postoperative instructions

IV. Summary and Conclusion

A. Types of dental records

B. Case presentation of treatment plan

C. Basic dental procedures

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

INTERACTION ITEMS:

1. Why do you think a dental history would be important? What questions do you think would be on a dental history form?

2. Do you have any ideas why amalgam restorations would not ideally be used in the front teeth?

3. In what cases do you think sutures would be used by the dentist?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

EVALUATION ITEMS:

1. List and describe three types of records needed in a complete diagnosis.

   a.

   b.

   c.

2. List the five components of a case presentation of treatment plan.

   a.

   b.

   c.

   d.

   e.

3. List the four basic procedures performed in a general dentist practice.

   a.

   b.

   c.

   d.

4. List three indications for removal of a tooth.

   a.

   b.

   c.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

ANSWERS TO EVALUATION ITEMS:

1. a. Medical history - a record of the patient's past and present physical condition; includes information regarding medications he/she is taking along with allergy history
   b. Dental history - information about past dental experiences
   c. Oral exam - to recognize, describe, and record any deviation from normal or condition of concern
      1) Chart oral conditions
      2) Expose necessary radiographs
      3) Study models (optional)
      4) Photographs (optional)

2. a. Diagnosis of current conditions
   b. Prognosis of what needs to be done
   c. Treatment plans, description and sequence in which treatment will be done
   d. Fee estimate of cost for treatment
   e. Financial arrangements

3. a. Oral examination
   b. Amalgam procedure
   c. Composite/esthetic procedure
   d. Surgical removal of teeth

4. a. Teeth that are carious and cannot be restored by operative procedures
   b. Removal to provide space in the arch for orthodontic treatment
   c. Teeth without sufficient bony support

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

SCOPE OF UNIT:

Dental offices vary considerably in design and equipment that is used. However, they are similar in the respect that all general practices require certain basic instruments and equipment to function. This unit will discuss the treatment room and its contents to orient the dental aide to some of the routine clinical procedures.

INFORMATION TOPIC: V-4 OR DEMONSTRATION:

DENTAL INSTRUMENTS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Identify basic setup instruments.
2. List four items needed for local anesthetic setup.
3. Match amalgam instruments to correct descriptions.
4. Match composite/esthetic instruments to correct descriptions.
5. Identify instruments used in surgical exodontics.
6. List four items needed for suture setup.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Basic Setup for Exam
2. HO 2: Anesthetic Setup
3. HO 3: Amalgam Tray Setup
4. HO 4: Composite Tray Setup
5. HO 5: Surgical Setup for Removal of Teeth
6. HO 6: Suture Setup for Surgical Removal of Teeth

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Ehrlich, Ann and S.M. Rizzuto. *Fundamentals for Dental Auxiliaries, Dental Hand Instruments*. Champaign, IL: The Colwell Company, 1982.

Erhlich, Ann. *Fundamentals II: Local Anesthesia, Sterilization and Oral Surgery*. Champaign, IL: The Colwell Company, 1984.

INTRODUCTION:

This lesson is intended to help you learn to identify and associate many of the dental hand instruments to various operative procedures. This lesson will help you identify the instruments from various pictures if actual instruments are not available.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

OUTLINE: (Key Points)

I. Basic Setup (HO 1)

A. Mouth mirror - used to reflect light to the operating field and to retract tissue to protect it from injury during a procedure

B. Explorer - used to examine tooth surfaces, to detect breaks in the pits and fissures; available in straight or curved forms

C. Cotton pliers - used to help the operator pick up, hold, and place items in the oral cavity (II-1)

D. Perio probe - an instrument with millimeter graduation that is used for measuring the depth of bone resorption in a periodontal pocket (may be optional to basic setup)

II. Anesthetic Setup (HO 2)

A. Syringe - commonly used to inject local anesthetic

B. Disposable needle - available in two lengths (II-2)

1. Short - 1" in length

2. Long - 1 5/8" in length

C. Anesthetic cartridge - contains the liquid anesthetic solution used for injection

D. Topical anesthetic - a liquid or gel solution used on the oral mucosa for a topical anesthetic effect

III. Amalgam Tray Setup (HO 3)

A. Spoon excavator - a hand cutting instrument used to remove carious dentin from a tooth; shape is similar to a household spoon.

B. Margin trimmer - used to bevel the walls of a cavity preparation; only used when a mesial or distal surface is involved

C. Matrix retainer - Tofflemire

D. Matrix bands

E. Amalgam carrier - any instrument designed to pick up amalgam and carry it to the oral cavity

F. Amalgam condenser - used to condense or pack the amalgam restorative material into the preparation

G. Amalgam carver - used for trimming down excessive amalgam and to create tooth anatomy in amalgam or wax

1. Cleoid-discoid carver
2. Frahm carver - triangular shape

H. Burnisher - has a blade or nib used to smooth, shape, or polish out roughness at the margin of a restoration

I. Miscellaneous - consumable supplies

1. Wedges
2. Cotton rolls
3. Articulating paper - for checking proper height of restoration
4. 2" x 2" gauze
5. Cotton pellets
6. Cotton tip swabs

IV. Composite/Esthetic Tray Setup (HO 4)

A. Spoon excavator - a hand cutting instrument used to remove carious dentin from a tooth; spoon shaped

B. Wedelstaedt chisel - a sharp instrument used to undermine margins

C. Plastic placing instrument - an instrument used to place composite filling material in the prepared tooth

D. Strip clip - clip used to hold the matrix strip in place

E. Matrix - A flexible plastic strip designed to supply the form of the missing tooth wall in the placement and condensation of restorative material

F. Finishing items

   1. Stones - green, white
   2. Sandpaper strips to trim interproximal surfaces
   3. Ultrafine diamond burs

G. Miscellaneous - consumable supplies

   1. Wedges
   2. Cotton rolls
   3. Articulating paper
   4. 2" x 2" gauze

V. Surgical Exodontic Setup (HO 5)

A. Surgical aspirator tip - a specially designed aspirator, with a small open end used to get down into the tooth socket

B. Periosteal elevator - elevator designed with a semi-spoon shape to fit under the free gingiva to detach the gingival tissue from around the neck of the tooth; avoids unnecessary injury to the tissues when extracting a tooth

C. Elevator - provides leverage to elevate the tooth from its socket thus assisting in removal of the tooth

D. Forceps - used for the actual removal of the tooth from its socket after it has been slightly loosened by the elevator; the beaks of the forceps are designed to fit the curve of the crown and onto the cementum of the tooth; various forceps are utilized throughout the oral cavity

VI. Suture Setup (HO 6)

A. Scissors - delicately designed scissors with curved tapered blades used to cut only sutures

B. Needle holder - a modified hemostat; has a distinct groove in the beaks to provide space for placement and retention of the suture needle

C. Needle - suture needles are curved, with sharp points, and come in various sizes; the curvature of the needle allows the point of the needle to enter and leave the tissue in a small area

D. Silk - approximately 18 inches of 000 black silk is used when suturing in the oral cavity

VII. Summary and Conclusion

A. Basic setup

B. Anesthetic setup

C. Amalgam tray setup

D. Composite/esthetic tray setup

E. Surgical exodontic setup

F. Suture setup

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

INTERACTION ITEMS:

1. Why do you think it would be important to use cotton pliers to pick up items that are going to be placed in the mouth?
2. Why would you recommend the use of disposable needles for injections?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Study the handouts provided with this lesson and allow students to examine actual instruments if available.

Match the following amalgam instruments to correct descriptions:

_____ 6. Hand cutting instrument used to remove carious dentin from a tooth; shape is similar to a household spoon

_____ 7. Used to bevel the walls of a cavity preparation; only used when a mesial or distal surface is involved

_____ 8. Has a blade or nib used to smooth, shape, or polish out roughness at the margin of a restoration

_____ 9. Used for trimming down excessive amalgam and to create tooth anatomy in amalgam or wax

_____10. Used to pack the amalgam restorative material into the preparation

_____11. Designed to pick up amalgam and transport it to the oral cavity

a. Burnisher

b. Amalgam carver

c. Amalgam carrier

d. Margin trimmer

e. Amalgam condenser

f. Spoon excavator

Match the following composite/esthetic instruments to correct descriptions:

______12. A flexible plastic strip designed designed to supply the form of the missing tooth wall in the placement and condensation of restorative material

______13. Used to position composite filling material in the prepared tooth

_____14. Used to hold the plastic tooth wall form in place

_____15. Used to undermine margins

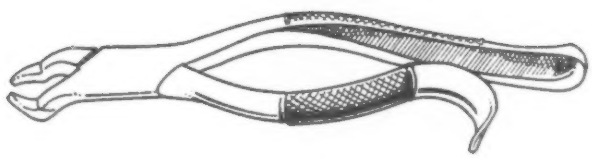
a. Wedelstaedt chisel

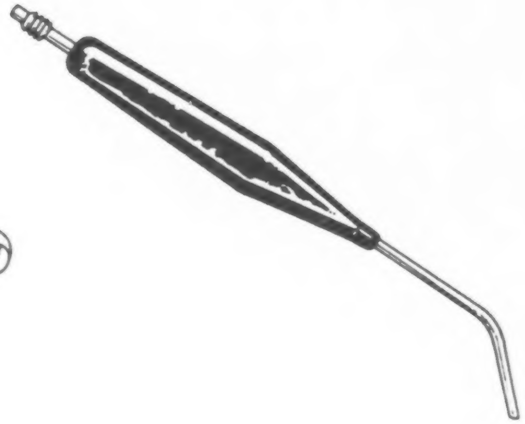
b. Strip clip

c. Plastic placing instrument

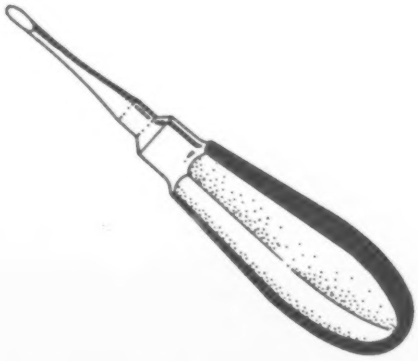
d. Matrix

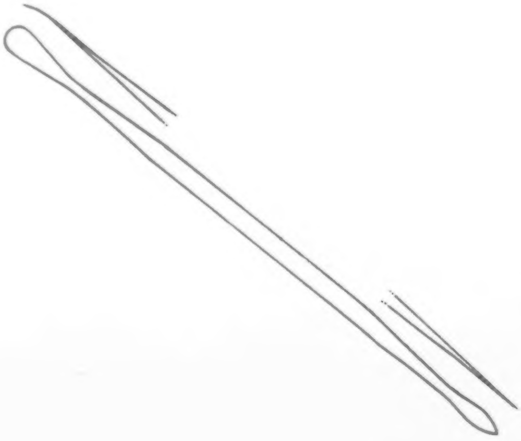
Identify the following surgical exodontic instruments:





16. ______________________________ 17. ______________________________





18. ______________________________ 19. ______________________________

20. List four items needed for suture setup.

a.

b.

c.

d.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT V : OPERATIVE EQUIPMENT AND PROCEDURES

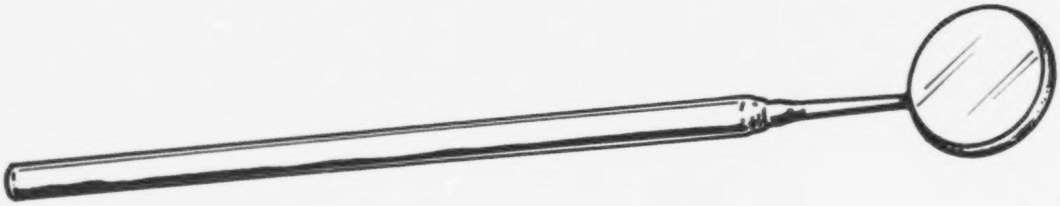
ANSWERS TO EVALUATION ITEMS:

1. Mouth mirror
2. Explorer
3. Cotton pliers
4. Perio probe
5. a. Syringe
   b. Disposable needle
   c. Anesthetic cartridge
   d. Topical anesthetic
6. f
7. d
8. a
9. b
10. e
11. c
12. d
13. c
14. b
15. a
16. Forceps
17. Surgical aspirator tip
18. Elevator
19. Periosteal elevator
20. a. Scissors
    b. Needle holder
    c. Needle
    d. Silk

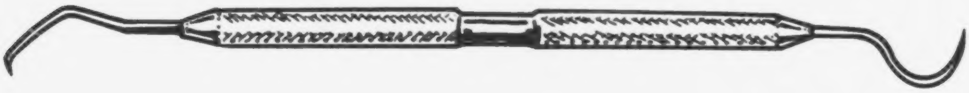
HO 1

Basic Setup for Exam

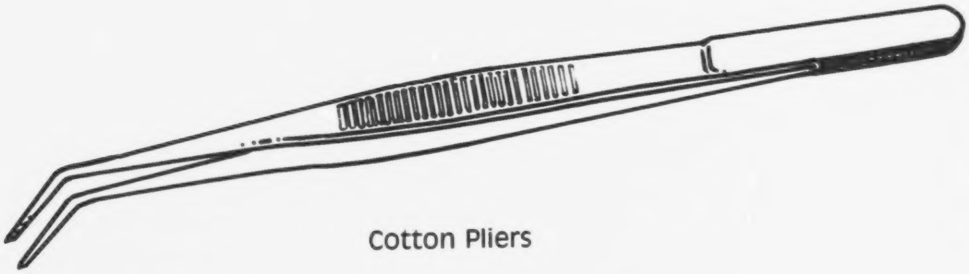
The basic setup is used for every operative procedure.



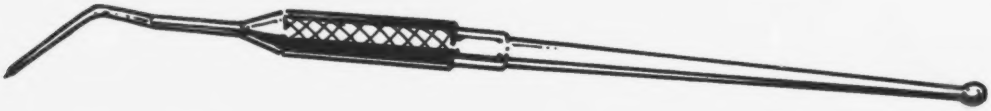
Mouth Mirror



Double Ended Explorer



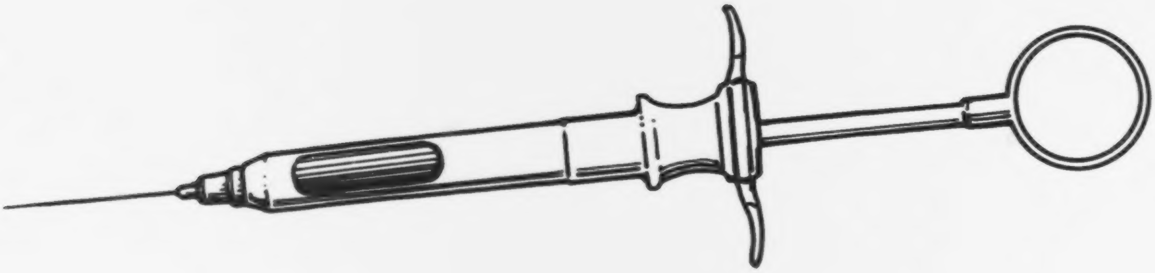
Cotton Pliers



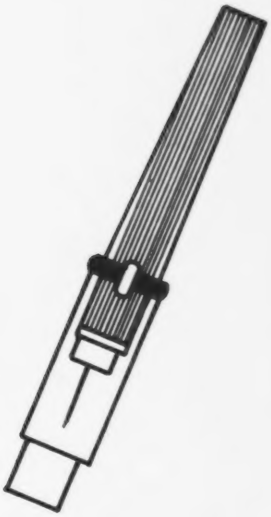
Perio Probe (optional)

HO 2

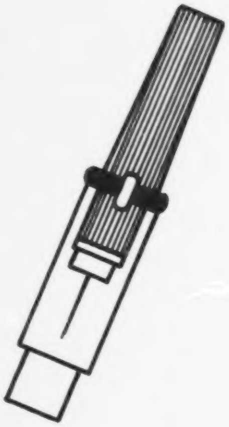
Anesthetic Setup



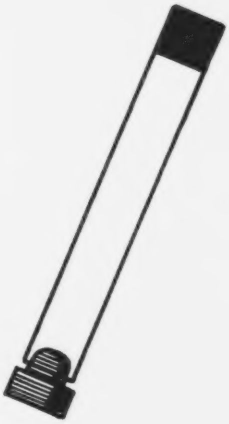
Aspirating Syringe with Needle



Long Needle with Cover

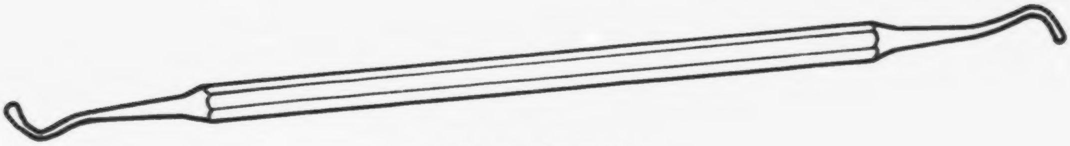


Short Needle with Cover

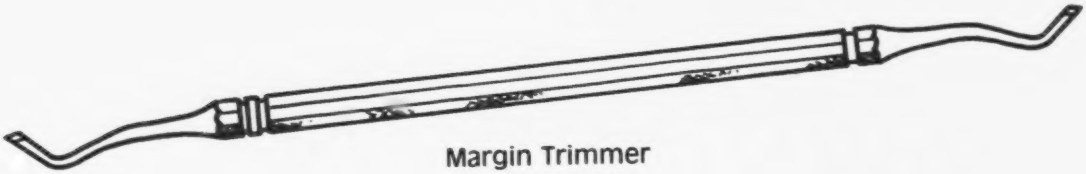


Anesthetic Cartridge

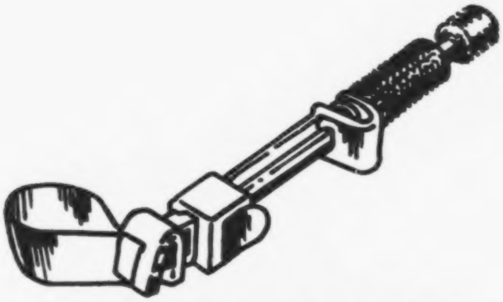
Amalgam Tray Setup



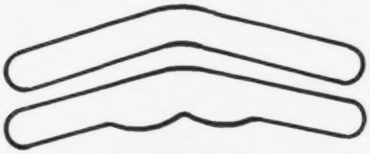
Spoon Excavator



Margin Trimmer

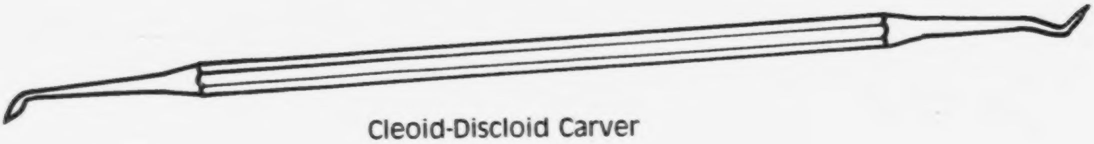


Matrix Retainer (Tofflemire)

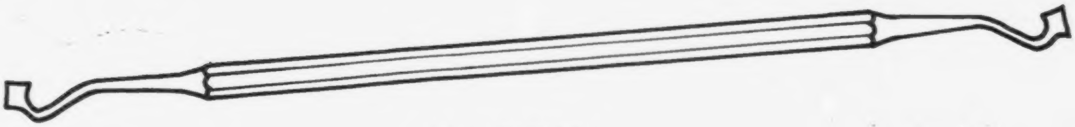


Matrix Band

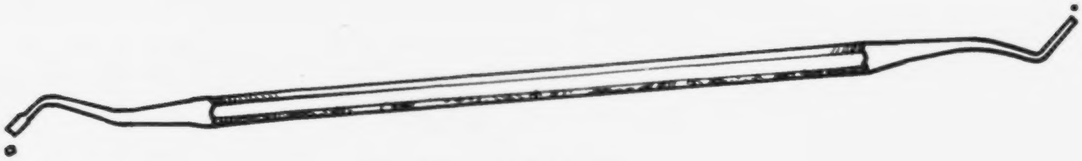
Amalgam Tray Setup



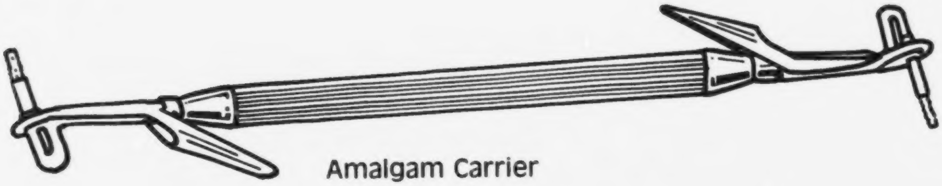
Cleoid-Discloid Carver



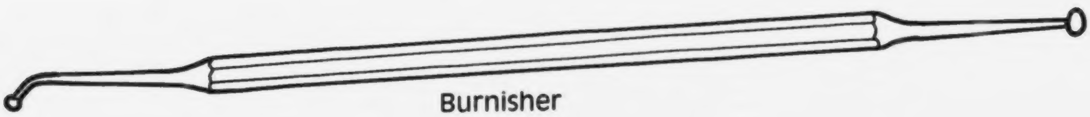
Frahm Carver



Amalgam Condenser

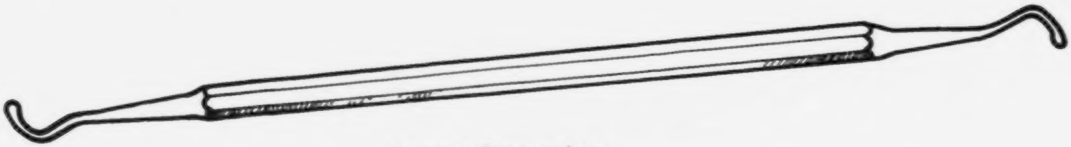


Amalgam Carrier

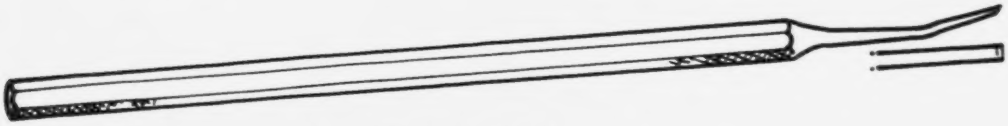


Burnisher

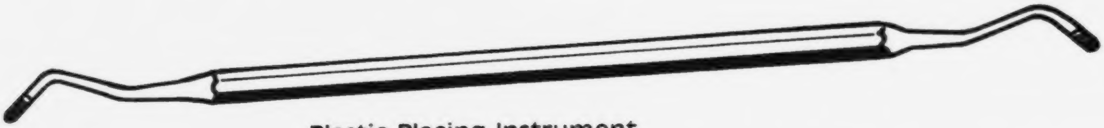
Composite Tray Setup



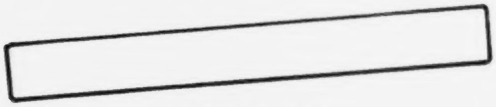
Spoon Excavator



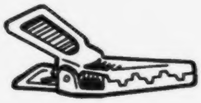
Wedelstaedt Chisel



Plastic Placing Instrument



Matrix Strip



Strip Clip

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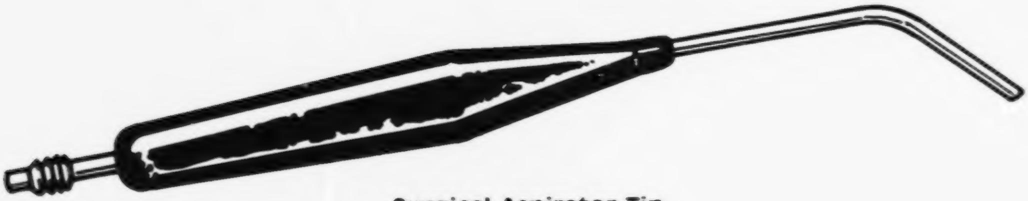
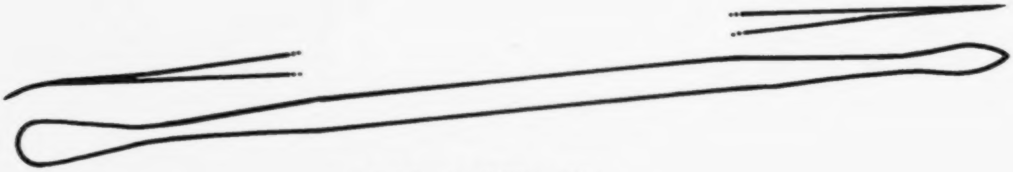
HO 5

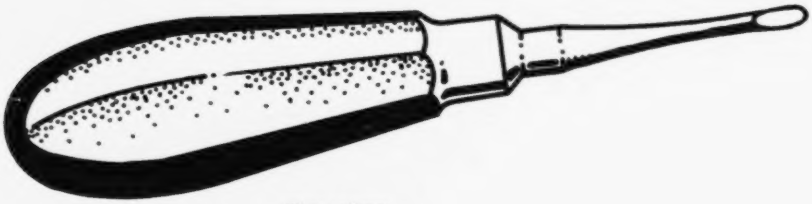
Surgical Setup for Removal of Teeth
(Exodontics)



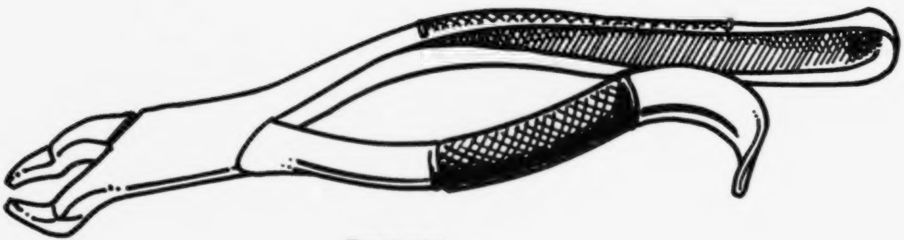
Surgical Aspirator Tip



Periosteal Elevator



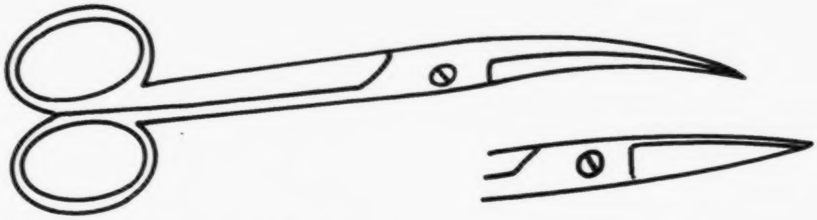
Elevator



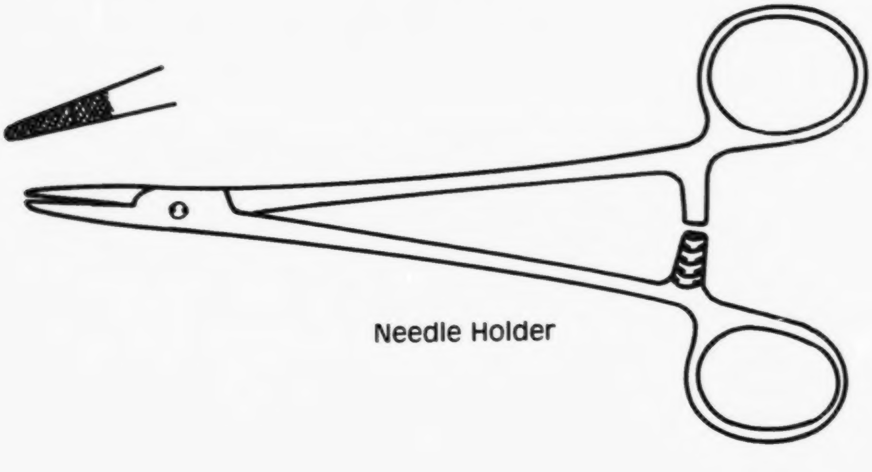
Forceps

HO 6

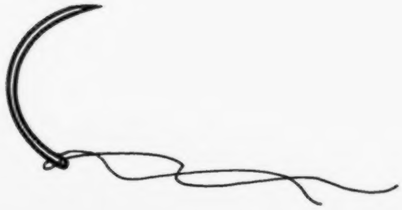
Suture Setup for Surgical Removal of Teeth



Suture Scissors



Needle Holder



Needle and Suture Silk

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

SCOPE OF UNIT:

This unit provides some basic skills in the area of radiology for the dental aide. Information relating to radiation protection, processing radiographs, and mounting radiographs will be covered.

INFORMATION TOPIC: VI-1 OR DEMONSTRATION:

RADIATION PROTECTION
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List four properties of ionizing radiation.
2. Identify short-term effects of excessive radiation exposure.
3. Identify long-term effects of excessive radiation exposure.
4. List four methods of protection from unnecessary radiation exposure.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. TM 1: Properties of Ionizing Radiation
2. TM 2: Effects of Excessive Radiation
3. TM 3: Methods of Protection from Radiation

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Edwards, Cris, et al. Radiation Protection For Dental Radiographers. Denver: Multi-Media Publishing, 1984.

Wolf, DeLyne. Essentials of Dental Radiology for Dental Assistants and Hygienists. 3rd ed. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1985.

INTRODUCTION:

As members of the dental health team dental aides will have access to areas where radiation is produced. It is important that we are aware of the hazards of radiation and have an understanding of how we can protect ourselves.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

OUTLINE: (Key Points)

I. Properties of Ionizing Radiation (II-1)

   A. Invisible

   B. Odorless

   C. Penetrates tissues

   D. Pure energy

   E. X-rays are not perceptible by any of the senses, this is what makes them so easy to ignore and why hazards involved in their use are often overlooked.

II. Effects of Excessive Radiation Exposure

   A. Short-term effects

      1. Erythema of skin (skin reddening)

      2. Increase of leukocytes

   B. Long-term effects

      1. Cancerous tumors

      2. Leukemia

      3. Cataracts

      4. Shortened life expectancy

III. Methods of Protection from Radiation

   A. Stand behind a lead wall if possible.

   B. Position yourself at least six feet away from the tube head during exposure.

   C. Never hold the tube head during exposure time.

D. Never stay in the same room while the x-ray is being exposed.

E. Never stand in the direct line of the primary beam. (II-2)

V. Summary and Conclusion

A. Properties of ionizing radiation

B. Effects of excessive radiation exposure

C. Methods of protection from radiation

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

INTERACTION ITEMS:

1. What are the four properties of radiation?
2. What are three ways we can protect ourselves from excessive radiation?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

EVALUATION ITEMS:

1. List the four properties of ionizing radiation.

   a.

   b.

   c.

   d.

Identify the following effects of excessive radiation exposure by writing "S" if it is a short-term effect, or "L" if it is a long-term effect.

____ 2. Erythema of skin

____ 3. Cataracts

____ 4. Leukemia

____ 5. Decreased leukocytes

____ 6. Cancerous tumors

____ 7. Shortened life expectancy

8. List four methods of protection from excessive radiation.

   a.

   b.

   c.

   d.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

ANSWERS TO EVALUATION ITEMS:

1. a. Invisible
   b. Odorless
   c. Penetrates tissue
   d. Pure energy
2. S
3. L
4. L
5. S
6. L
7. L
8. The student may list any four of the following:
   a. Stand behind a lead wall if possible.
   b. Position yourself at least six feet away from the tube head during exposure.
   c. Never hold the tube head during exposure time.
   d. Never stay in the same room while the x-ray is being exposed.
   e. Never stand in the direct line of the primary beam.

Properties of
Ionizing Radiation

X-rays are: Invisible
Odorless
Pure Energy

X-rays can: Penetrate Tissues

Effects of Excessive Radiation

Short-Term Effects:

- Skin Erythema (skin reddens)
- Increase of Leukocytes

Long-Term Effects:

- Cancerous Tumors
- Leukemia
- Cataracts
- Shortened Life Expectancy

TM 3

Methods of Protection from Radiation

1. Stand behind a lead wall if possible.
2. Position yourself at least 6 feet away from the tube head during exposure.
3. Never hold the tube head during exposure time.
4. Never stay in the same room while the x-ray is being exposed.
5. Never stand in the direct line of the primary beam.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

SCOPE OF UNIT:

This unit provides some basic skills in the area of radiology for the dental aide. Information relating to radiation protection, processing radiographs, and mounting radiographs will be covered.

INFORMATION TOPIC: OR DEMONSTRATION: VI-2

MANUAL PROCESSING (DEVELOPING) OF RADIOGRAPHS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Prepare radiographs for manual processing according to the steps of procedure.
2. Manually process radiographs according to the steps of procedure.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Processing Dental Radiographs
2. TM 1: Developing Tank
3. Darkroom
4. Developing tank with running water
5. Replenisher
6. Stirring rod
7. Fixing solution
8. Developer solution
9. Radiographs
10. Hangers

INFORMATIONAL ASSIGNMENT:

REFERENCES:

O'Brien, Richard. *Dental Radiography: Introduction for Dental Hygienists and Assistants*. 4th ed. Philadelphia: W.B. Saunders Co., 1982.

INTRODUCTION:

Processing radiographs is a very important procedure for any dental auxiliary. No technique or operatory expertise will overcome poor or lax performance in developing radiographs. Developing/processing dental radiographs is a precise skill that must be done with complete accuracy.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

STEPS OF PROCEDURE:

Steps in Preparation for Manual Processing of Radiographs (HO 1)

1. Turn on tank (water wash). (TM 1)

2. Check the solutions and add the proper replenisher as required.

3. Stir the solutions with the proper stirring rod.

4. Check temperature of solutions. If the temperature is incorrect, add hot or cold water as required to the wash tank or adjust the temperature control and wait until the temperature stabilizes (temperature should be approximately 68° C).

5. Mark the film hangers with following information: (II-1)

    a. Patient's name

    b. Date

    c. Number of films

6. Wash hands and clean counters before beginning to process films.

Steps for Proper Processing of Radiographs

1. Determine the correct developing time from manufacturer's chart. Set timer.

2. Lock the door so no one can enter and expose the radiographs to white light. (II-2)

3. Turn on safelight.

4. Turn off overhead white light.

5. Separate films from packets (touching only the edges) and clip them firmly on hangers.

6. Immerse hanger with films in developing solution and agitate.

7. Activate timer for developer (approximately 4 1/2 minutes at 68°).

8. Remove hanger when timer rings.

9. Rinse films in running water for 20 seconds.

10. Immerse hanger with films in fixer solution, and agitate.

11. Set and start timer for 10 minutes.

12. Remove hanger when timer rings (you may turn on the overhead white light). (II-3)

13. Immerse films in running water for 20 minutes.

14. Remove and hang films to dry.

SUMMARY AND CONCLUSION

1. Ask interaction items.

2. Review steps of procedures.

   INSTRUCTOR NOTE: If a darkroom is unavailable and students are unable to return the demonstration for evaluation and check off, the written evaluation included in this lesson may be administered instead.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

INTERACTION ITEMS:

1. Why is it important to mark the film hangers with patient information?

2. What would happen if you didn't lock the door and someone came in while you were processing radiographs?

3. Why can you turn on the overhead white light after the films come out of the fixer?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Instructor demonstrates procedures.

2. Students practice procedures.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

EVALUATION ITEMS:

1. List the six preparatory steps for processing radiographs.

   a.

   b.

   c.

   d.

   e.

   f.

2. Place the following procedures in the correct order of performance:

   ____ Set and start timer for 10 minutes.

   ____ Turn off overhead white light.

   ____ Activate timer for developer.

   ____ Separate films from packets and clip them firmly on hangers.

   ____ Lock door.

   ____ Remove and hang films to dry.

   ____ Determine the correct developing time from manufacturer's chart. Set timer.

   ____ Turn on safelight.

   ____ Immerse films in running water for 20 minutes.

   ____ Remove hanger when timer rings.

   ____ Immerse hanger with films in fixer.

   ____ Remove hanger when timer rings.

____ Immerse hanger with films in developing solution.

____ Rinse films in running water for 20 seconds.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

EVALUATION ITEMS: NAME OF STUDENT:____________________

PROCESSING (DEVELOPING) RADIOGRAPHS

EQUIPMENT:

1. Darkroom
2. Developing tank with running water
3. Replenisher
4. Stirring rod
5. Fixing solution
6. Developer solution
7. Radiographs
8. Hangers
9. Timer

DID THE STUDENT	YES	NO
Prepare for Manual Processing of Radiographs 1. Turn on tank (water wash).		
2. Add replenisher (if necessary).		
3. Stir solutions with proper stirring rods.		
4. Check temperature of fixing and developing solutions (adjust if necessary).		
5. Mark film hanger.		
a. Patient's name		
b. Date		
c. Number of films		
6. Wash hands and clean counter.		
Process Radiographs 1. Determine correct developing time.		
2. Set timer.		

DID THE STUDENT	YES	NO
3. Lock outer door.		
4. Turn on safelight.		
5. Turn off white light.		
6. Separate films from packets touching only edges.		
7. Clip films firmly on hangers.		
8. Immerse hanger in developing solution; agitate.		
9. Activate timer.		
10. Remove hanger when timer rings.		
11. Rinse under running water for 20 seconds.		
12. Immerse hanger in fixer solution, and agitate.		
13. Set and start timer for 10 minutes.		
14. When timer rings remove hanger from fixer.		
15. Immerse films in running water for 20 minutes.		
16. Remove and hang films to dry.		

The student has satisfactorily completed the procedure "PROCESSING (DEVELOPING) RADIOGRAPHS" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

ANSWERS TO EVALUATION ITEMS:

1. a. Turn on tank (water wash).
   b. Check solutions and add replenisher if necessary.
   c. Stir solutions with proper stirring rods.
   d. Check and adjust temperature solutions.
   e. Mark film hangers with name, date, number of films.
   f. Clean all counters and make sure hands are free from dirt and oil.

2. Place the following steps of procedure in the correct order of performance:

   11 Set and start timer for 10 minutes.
   4 Turn off overhead white light.
   7 Activate timer for developer.
   5 Separate films from packets and clip them firmly on hangers.
   2 Lock door.
   14 Remove and hang films to dry.
   1 Determine the correct developing time from manufacturer's chart. Set timer.
   3 Turn on safelight.
   13 Immerse films in running water for 20 minutes.
   12 Remove hanger when timer rings.
   10 Immerse hanger with films in fixer.
   8 Remove hanger when timer rings.
   6 Immerse hanger with films in developing solution.
   9 Rinse films in running water for 20 seconds.

HO 1

PROCESSING DENTAL RADIOGRAPHS

1. The following equipment is needed to manually process dental radiographs:

   Equipment

   Darkroom
   Radiographs
   Stirring paddles
   Thermometer
   Pen - Paper
   Processing tanks containing solutions
   Timing clock
   Film hangers
   Safe light

2. When preparing tanks the following standards are required:

   1. All solutions stirred
   2. Temperature solutions range is from 60° to 80° F.
   3. Solution levels no less than two inches from top of tank
   4. Check date of developing solutions

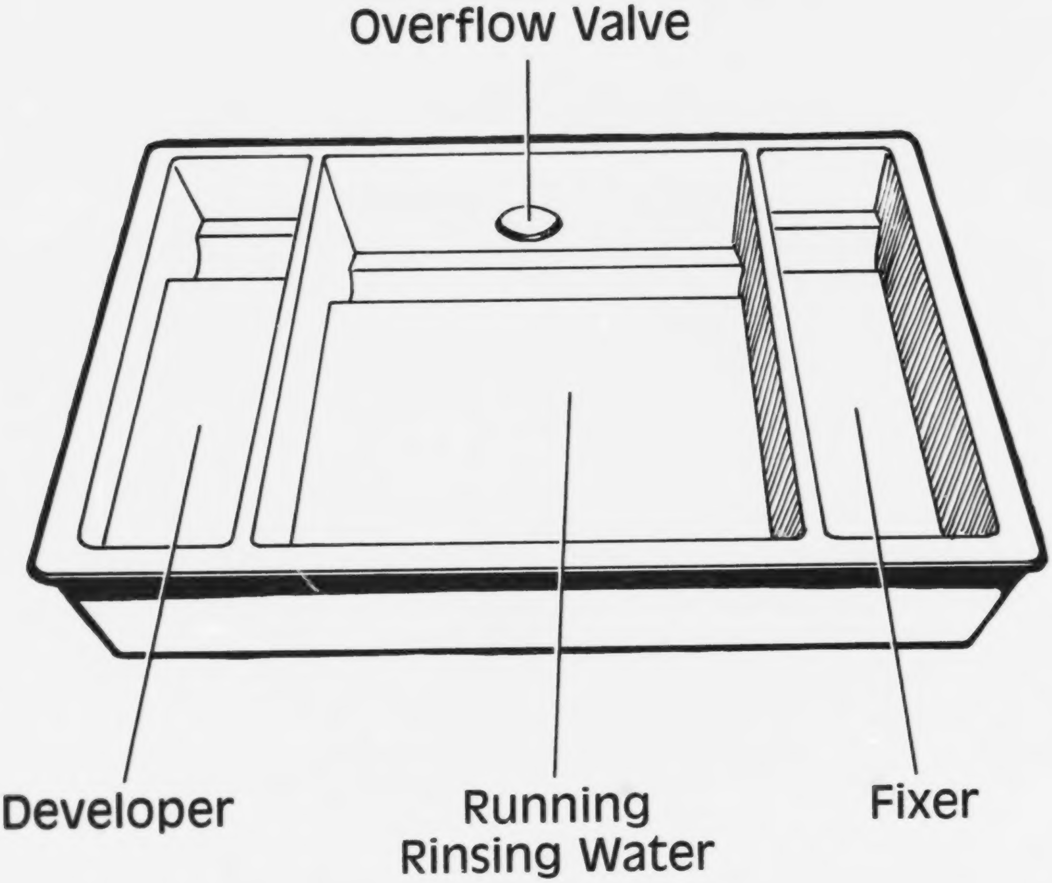
3. The following data should be listed on every mount:

   Patient's name
   Today's date
   Doctor's name
   Date films exposed
   Number of films
   Operator's name

4. Steps of procedure for processing radiographs:

   1. Separate films from packets.
   2. Clip films firmly on hangers.
   3. Set timer.
   4. Immerse hanger with films in developer solution.
   5. Turn on timer.
   6. Remove hanger when timer rings.
   7. Rinse in running water for 20 seconds.
   8. Immerse hanger with films in fixer for 10 minutes.
   9. Set and start timer.
   10. Remove hanger when timer rings.
   11. Immerse hanger in running water for 20 minutes.
   12. Dry films.
   13. Mount and label films.

Developing Tank


Overflow Valve
Developer
Running Rinsing Water
Fixer

Tank for Processing Dental Films

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

SCOPE OF UNIT:

This unit provides some basic skills in the area of radiology for the dental aide. Information relating to radiation protection, processing radiographs, and mounting radiographs will be covered.

INFORMATION TOPIC: VI-3 OR DEMONSTRATION:

AUTOMATIC PROCESSING (DEVELOPING) OF RADIOGRAPHS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Describe the transport system of automatic processors.
2. List the two main types of automatic processors.
3. Identify four operation principles for automatic processors.
4. Describe three advantages of automatic processors.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Automatic Film Processor with Daylight Loader

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Frommer. *Radiology for Dental Auxiliaries*. 4th ed. St. Louis: C.V. Mosby Co., 1987.

Anderson, Pauline. *The Dental Assistant*. 5th ed. Albany, NY: Delmar Publishers, 1987.

INTRODUCTION:

In recent years automatic dental film processing units have become available. They provide automated time/temperature processing. One of the main advantages of these units is the time saved and the increased volume of films that can be processed when compared to the manual method.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

OUTLINE: (Key Points)

I. Introduction to Automatic Processing

- A. Automatic processors use a roller or track transport system to move the film through the developer, fixer, wash and dry cycles
- B. Types of processors
  1. Darkroom processor - it is loaded in a conventional darkroom with a safe light
  2. Daylight processor - a daylight loader unit is mounted on the processor in order to load films without exposing them to white light (HO 1) (II-1)
  3. All automatic processors require an electrical source for operation of the rollers and drying element.

II. Basic Principles of Operation

- A. Change the wash water solution every day.
- B. Check the chemical levels in the developer and fixer tanks daily, and replenish if necessary.
- C. Maintain a log of the number of films processed. Change chemicals every 300-350 films or every two weeks, whichever is sooner. (II-2)
- D. Strictly adhere to the manufacturer's instructions for care and maintenance.

III. Advantages of Automatic Processors

- A. Standardized procedure, automated time/temperature processing
- B. Increased volume of films can be processed in given period of time when compared to the manual method
- C. Finished film is dried and ready to be mounted and placed in patient's folder in four to seven minutes (II-3)

IV. Summary and Conclusion

   A. Introduction to automatic processing

   B. Basic principles of operation

   C. Advantages of automatic processors

NOTE: Depending on brand and model of the processor, instructions for use may vary. Films are typically inserted into the processor opening/slot and automatically transported through the solution tanks and dryer and emerge ready for mounting.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

INTERACTION ITEMS:

1. What would be the advantage of a daylight loader?
2. Why do you think it is so critical to monitor the number of films processed and the time elapsed since the time the chemicals were last changed?
3. What would be the advantage of having a film dry when the developing process is completed?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Instructor demonstrates the operation of an automatic processor, if available.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

EVALUATION ITEMS:

1. How is the film transported through the automatic processor?

2. List the two main types of automatic processors.

   a.

   b.

3. Identify four basic principles of operation all automatic processors have in common.

   a.

   b.

   c.

   d.

4. Describe three advantages of automatic processors.

   a.

   b.

   c.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

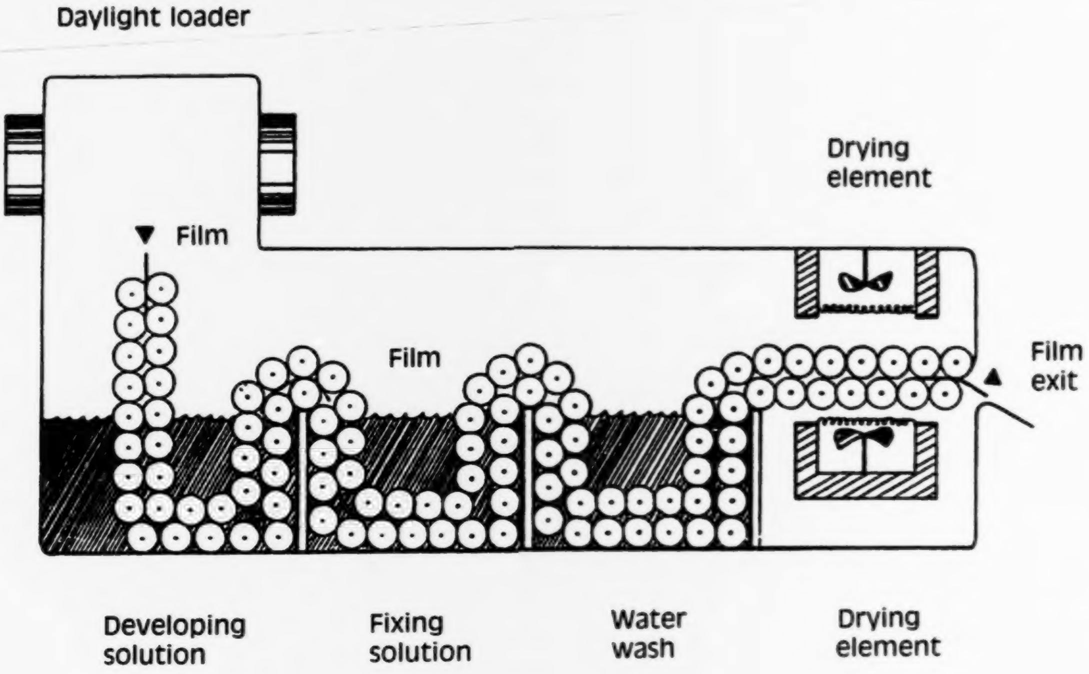
UNIT VI : RADIOLOGY

ANSWERS TO EVALUATION ITEMS:

1. Automatic processors use a roller or track system.
2. a. Darkroom processor - with safelight
   b. Daylight processor
3. a. Change wash water daily
   b. Check chemical levels in developer and fixer and replenish if necessary
   c. Maintain a log of the number of films processed
   d. Adhere to the manufacturer's instructions
4. a. Standardized procedure/automated
   b. Increased volume of films can be processed
   c. Finished film is dried and ready to be mounted and placed in patient's folder in four to seven minutes

HO 1

Automatic Film Processor with Daylight Loader


Daylight loader
Film
Drying element
Film
Film exit
Developing solution
Fixing solution
Water wash
Drying element

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

SCOPE OF UNIT:

This unit provides some basic skills in the area of radiology for the dental aide. Information relating to radiation protection, processing radiographs, and mounting radiographs will be covered.

INFORMATION TOPIC: OR DEMONSTRATION: VI-4

MOUNTING RADIOGRAPHS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Successfully mount in correct position a full mouth survey of 14 periapical films and 4 bitewing radiographs.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Example of Mounting
2. X-ray view box
3. Full-mouth survey mount-18 window style
4. Marking device (pencil)
5. Full-mouth set of radiographs (18 films) including 4 bitewing #2 radiographs and 14 periapical #2 radiographs

INFORMATIONAL ASSIGNMENT:

REFERENCES:

O'Brien, Richard. Dental Radiography: An Introduction for Dental Hygienists and Assistants. 4th ed. Philadelphia: W.B. Saunders Co., 1982.

INTRODUCTION:

Radiographs are mounted so that they coincide with the teeth as you look at the patient's mouth.

It is like putting a dental puzzle together, every film has only one position in the mount in which it belongs. Today we will be learning how to position these films so they represent an accurate picture of the patient's mouth.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

STEPS OF PROCEDURE:

1. Gather all equipment.

2. Wash hands so they will be free from oil, or dirt.

3. Place all films/radiographs on the view box so that the convex surface of the dots (or the raised portions) faces up; bump or raised dot forms.

4. Select the four bitewing radiographs. (Radiographs that show both maxillary and mandibular teeth on one film.)

5. Mount the two molar/posterior bite wing radiographs.

6. Mount the two premolar/anterior bitewing radiographs.

7. Select the film of the mandibular central incisors (these are the smallest teeth in the arches). Mount it.

8. Select the film of the maxillary central incisors (similar to the mandibular centrals except larger and the nasal spine is usually observable).

9. Locate the four cuspid films. Separate the mandibular cuspids from maxillary cuspids. (The mandibular cuspids are adjacent to the lower lateral incisors and the lower lateral incisors are almost as small as the lower centrals. The maxillary cuspids are noted by the presence of maxillary sinus.) Mount them.

10. Select and sort out the two maxillary molar films and determine the right and left sides by the dot. Mount them.

11. Select and sort out the two mandibular molar films and by looking at the dot determine right and left sides. Mount them.

12. The four premolar films are the only radiographs remaining--place them into the mount by matching the adjacent teeth with the images of the cuspid and molar films. If in doubt look for the maxillary sinus on maxillary premolar films and the mental foramen on the mandibular premolar films. Mount them.

13. Examine to see that all films are in order by matching bitewing landmarks, i.e., restorations, missing teeth.

14. Complete all information on top of mount:

    a. Patient's name

    b. Doctor's name

    c. Date

SUMMARY AND CONCLUSION

1. Ask interaction items.

2. Review steps of procedure.

   INSTRUCTOR NOTE: If facilities and/or equipment is unavailable and students are unable to return the demonstration for evaluation and check off, the written evaluation included in this lesson may be administered instead.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

INTERACTION ITEMS:

1. Why is it so important to have all dots going in the same direction (concave--dot down/convex--dot up)?
2. Which window on the mount do the molar films fit into?
3. Why do we mount the four bitewing radiographs first?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Instructor demonstrates procedure.
2. Students practice procedure.

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

EVALUATION ITEMS:

1. Identify from the example mount below, the correct position of the following radiographs according to the letter in the window.

________ Maxillary left molar

________ Mandibular right cuspid

________ Mandibular right molar

________ Mandibular central incisors

________ Left molar/posterior bitewing

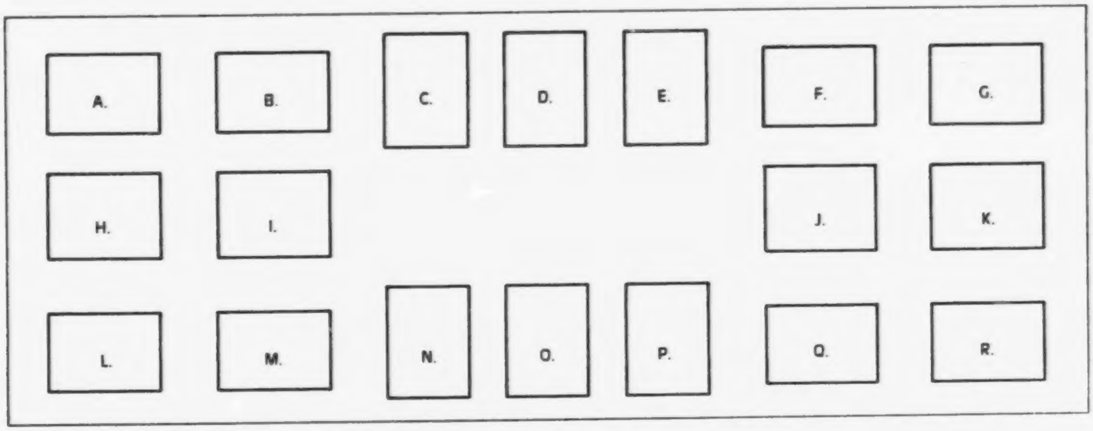
________ Maxillary right premolar

________ Maxillary right molar

________ Mandibular left molar

________ Maxillary left cuspid

________ Right premolar/anterior bitewing



2. When mounting radiographs, which set of four radiographs do we mount first to use as matching landmarks?

LESSON PLAN: 4

COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

EVALUATION ITEMS: NAME OF STUDENT:__________________

MOUNTING RADIOGRAPHS

EQUIPMENT

1. X-ray view box
2. Full-mouth survey mount - 18 window style
3. Marking device (pencil)
4. Full-mouth set of radiographs (18 films) including 4 bitewing #2 radiographs and 14 periapical #2 radiographs

DID THE STUDENT	YES	NO
1. Gather all equipment.		
2. Wash hands.		
3. Place all films on view box with correct side up.		
4. Select bitewing radiographs (4 films).		
5. Mount molar/posterior bitewing radiographs.		
6. Mount premolar/anterior bitewing radiographs.		
7. Select film of mandibular central incisors and mount.		
8. Select film of maxillary central incisors and mount.		
9. Select films of cuspids (4 films).		
10. Mount the mandibular cuspid films.		
11. Mount the maxillary cuspid films.		
12. Select maxillary molar films (2 films).		
13. Mount film of right maxillary molar.		
14. Mount film of left maxillary molar.		
15. Select mandibular molar films (2 films).		

DID THE STUDENT	YES	NO
16. Mount film of right mandibular molar.		
17. Mount film of left mandibular molar.		
17. Sort and mount remaining premolar films.		
18. Check to see that all films are in order.		
19. Complete information on top of mount.		

The student has satisfactorily completed the procedure "MOUNTING RADIOGRAPHS" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 4

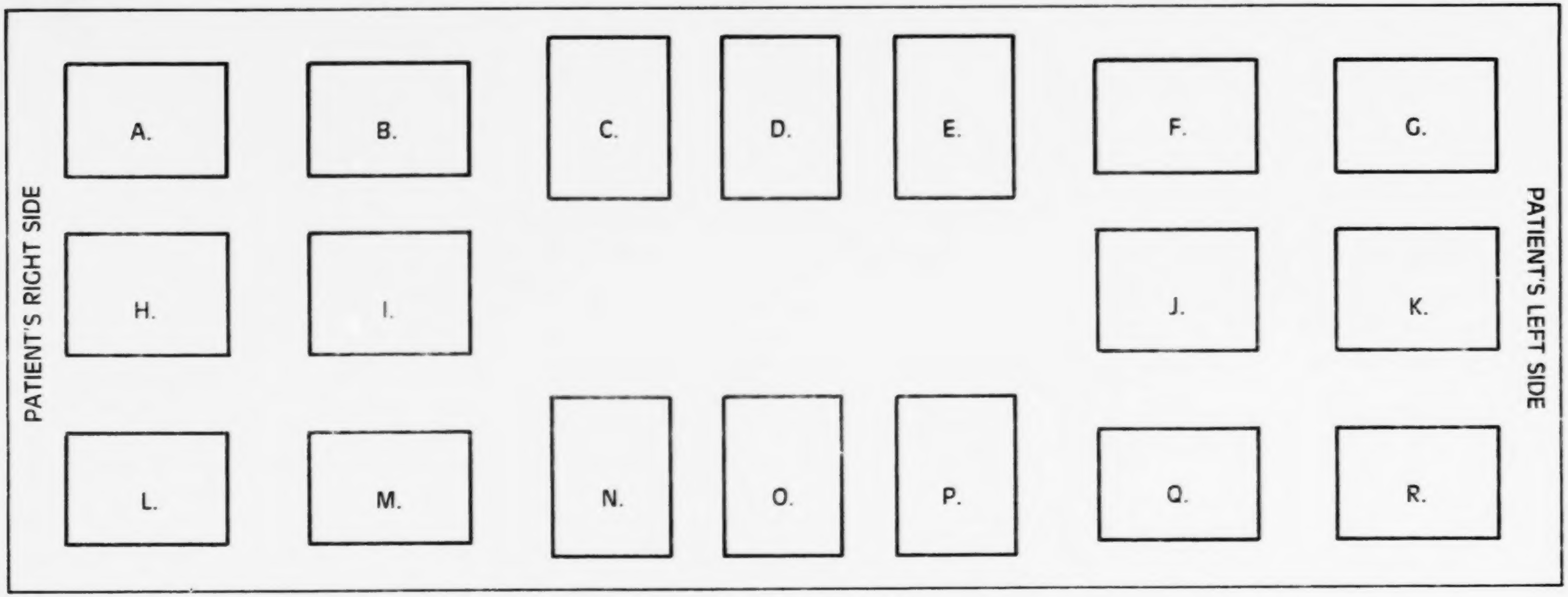
COURSE TITLE: DENTAL AIDE

UNIT VI : RADIOLOGY

ANSWERS TO EVALUATION ITEMS:

1. G Maxillary left molar
N Mandibular right cuspid
L Mandibular right molar
O Mandibular central incisors
J Left molar/posterior bitewing
B Maxillary right premolars
A Maxillary right molar
R Mandibular left molar
E Maxillary left cuspid
I Right premolar/anterior bitewing

2. (2) premolar/anterior bitewings - right-left
(2) molar/posterior bitewings - right-left



Example of Mounting

A. Maxillary Right Molar Area
B. Maxillary Right Premolar Area
C. Maxillary Right Cuspid Area
D. Maxillary Central Incisor Area
E. Maxillary Left Cuspid Area
F. Maxillary Left Premolar Area
G. Maxillary Left Molar Area
H. Right Molar Bitewing Area
I. Right Premolar Bitewing Area
J. Left Molar Bitewing Area
K. Left Premolar Bitewing Area
L. Mandibular Right Molar Area
M. Mandibular Right Premolar Area
N. Mandibular Right Cuspid Area
O. Mandibular Central Incisor Area
P. Mandibular Left Cuspid Area
Q. Mandibular Left Premolar Area
R. Mandibular Left Molar Area

Maxillary - Upper
Mandibular - Lower

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VII : LABORATORY PROCEDURES

SCOPE OF UNIT:

This unit introduces basic responsibilities of the dental aide regarding laboratory and lab safety guidelines including identification and maintenance of equipment, general cleanup responsibilities, and an overview of the basic lab procedure for taking and pouring alginate impressions.

INFORMATION TOPIC: VII-1 OR DEMONSTRATION:

IDENTIFICATION OF BASIC LAB EQUIPMENT
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Identify basic dental lab equipment.
2. Differentiate between oxygen and nitrous oxide tanks found on a portable nitrous oxide unit.
3. List three rules for the dental aide to follow when maintaining lab equipment.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Basic Lab Equipment
2. HO 2: Portable Nitrous Oxide Unit

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W. B. Saunders Co., 1985.

Benson, Harold J., and Kenneth E. Kipp. Dental Science Laboratory Guide. 4th ed. Dubuque, IA: Wm. C. Brown Company, 1976.

INTRODUCTION:

Although hands-on training and experience are ultimately the best ways to become skilled in using dental equipment, the information in this lesson will help you familiarize yourself with basic lab equipment normally found in a dental laboratory. Also included in this lesson are essential rules for maintaining lab equipment.

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VII : LABORATORY PROCEDURES

OUTLINE: (Key Points)

I. Basic Lab Equipment (HO 1)

   A. Model trimmer

      1. Used to trim hardened plaster or stone from models that have been constructed of patients' mouths

      2. Components of the model trimmer

         a. On/off switch

         b. Trimming blade

         c. Water valve

         d. Trimming platform

      3. Never attempt to utilize the model trimmer (or any lab equipment) without thorough training and close supervision by a dental staff member.

      4. Never touch the trimming platform or blade while trimmer is running. The moving blade can cause serious injury to hands.

   B. Plaster vibrator

      1. Used to pour plaster or stone mixtures into impressions taken of patients' mouths.

      2. Components

         a. On/off/high-low switch

         b. Pouring platform

      3. Do not attempt to pour impressions without hands-on training and practice.

      4. Improperly poured models necessitate reappointing the patient for new impressions.

C. Motorized lathe

1. Used to trim various acrylic appliances or dentures and to polish acrylic and metal with pumice or specially-designed polishing agents.

2. Components

   a. On/off/high-low switch

   b. Rag-wheel attachment and pumice pan

   c. Lab bur attachment

3. The motorized lathe has two sides

   a. The rag wheel (so named because it is a soft cotton wheel) and pumice pan are used to polish appliances, dentures, etc. (II-1)

   b. The lab bur is used to trim acrylic dentures and appliances. It resembles the burs used in the operatory except that lab burs are much larger.

D. Compressor/suction switch

1. Air compressor and suction units are necessary to run the dental unit handpieces and suction.

2. The switches for compressor and suction must be turned on every morning and turned off every evening.

II. Portable Nitrous Oxide Unit (HO 2)

A. Nitrous oxide combined with oxygen is a relative analgesic administered by inhalation in many dental offices.

B. The oxygen tank is always green in color and the nitrous oxide tank is always blue.

C. Some offices use portable nitrous oxide delivery units with small tanks. The dental aide will not be responsible for turning portable units on or off.

D. Other dental offices use large tanks, usually located in the lab, which must be turned on every morning and off every night.

E. The tanks are turned on and off by valves.

1. When turning a tank on, turn valve only until you see the needle rising on the pressure gauge.

2. When turning a tank off, turn valve in the opposite direction until it will turn no further.

F. Refer to the next lesson for safety precautions to be taken when dealing with gas tanks.

III. Maintaining Lab Equipment

A. Keep the lab clean, but do not attempt to fix broken equipment.

B. No lab equipment should be left on when not in use.

C. Before using any lab equipment, always check with a qualified staff member for proper procedure.

IV. Summary

A. Basic lab equipment

B. Portable nitrous oxide unit

C. Maintaining lab equipment

LESSON PLAN: 1

COURSE TITLE: DENTAL AIDE

UNIT VII: LABORATORY PROCEDURES

INTERACTION ITEMS:

1. What is pumice?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

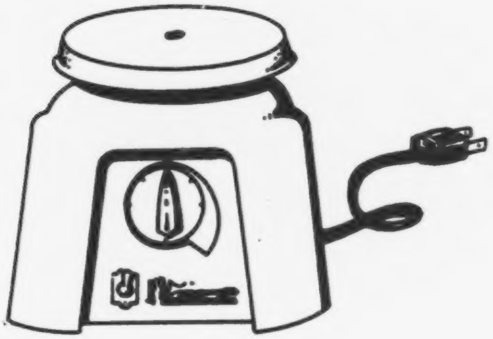
LESSON PLAN: 1

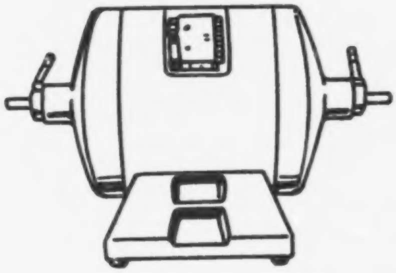
COURSE TITLE: DENTAL AIDE

UNIT VII **:** LABORATORY PROCEDURES

EVALUATION ITEMS:

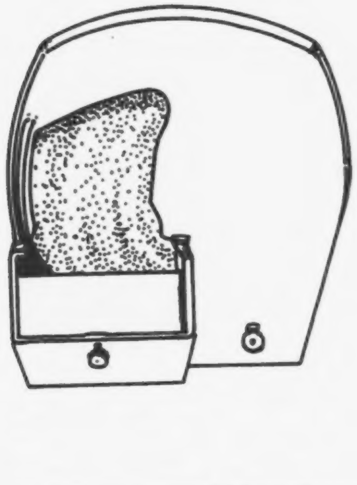
Identify the following basic lab equipment.





1. ______________________________

2. ______________________________



3. ______________________________

4. What color is the nitrous oxide tank? ______________________

5. What color is the oxygen tank? ______________________

6. List three rules for the dental aide to follow when maintaining equipment.

   a.

   b.

   c.

LESSON PLAN: 1

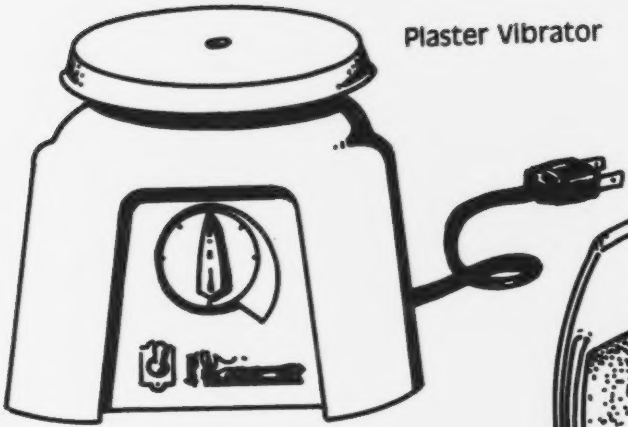
COURSE TITLE: DENTAL AIDE

UNIT VII : LABORATORY PROCEDURES

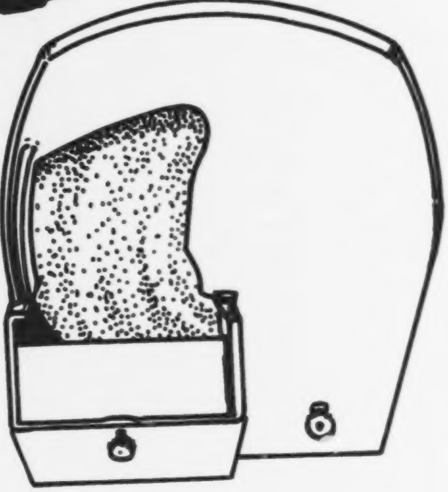
ANSWERS TO EVALUATION ITEMS:

1. Plaster vibrator
2. Motorized lathe
3. Model trimmer
4. Blue
5. Green
6. a. Do try to keep the lab clean, but do not attempt to fix broken equipment.
   b. Do not leave lab equipment on when not in use.
   c. Before using any lab equipment, always check with a qualified staff member for proper procedure.

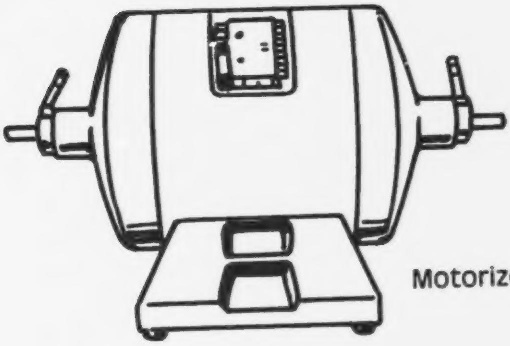
Basic Lab Equipment



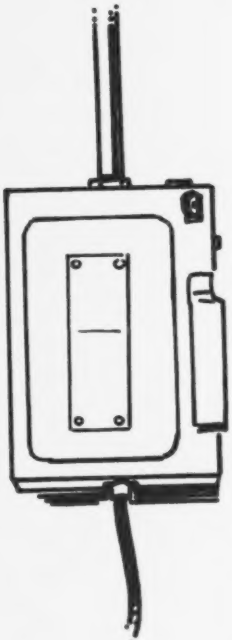
Plaster Vibrator



Model Trimmers

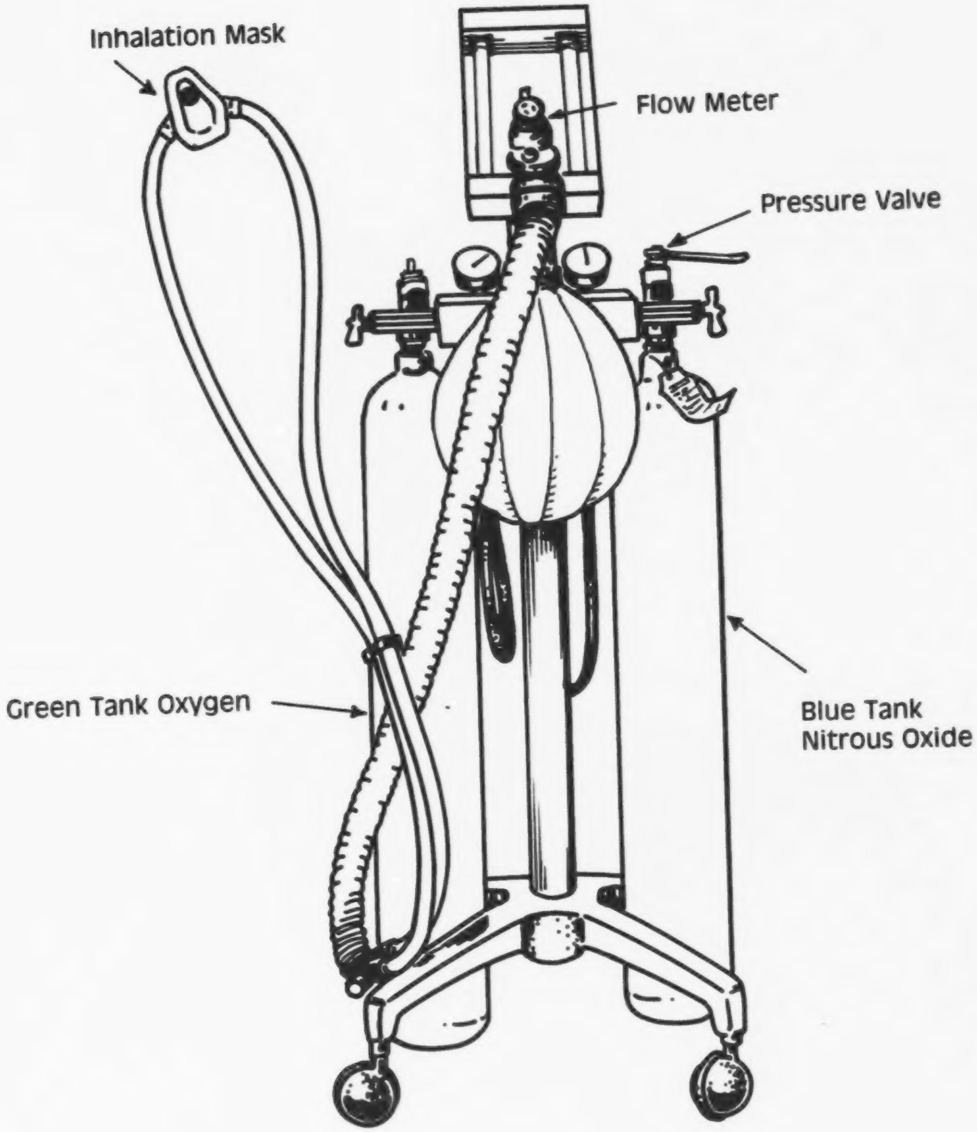


Motorized Lathe



Compressor Switch

Portable Nitrous Oxide Unit


Inhalation Mask
Flow Meter
Pressure Valve
Green Tank Oxygen
Blue Tank
Nitrous Oxide

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

SCOPE OF UNIT:

This unit introduces basic responsibilities of the dental aide regarding laboratory and lab safety guidelines including identification and maintenance of equipment, general clean up responsibilities, and an overview of the basic lab procedure for taking and pouring alginate impressions.

INFORMATION TOPIC: VII-2 OR DEMONSTRATION:

LABORATORY SAFETY AND CLEANUP
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. List five general safety precautions to be taken in the dental lab.
2. List three safety precautions to be taken when dealing with gas tanks.
3. List four key points in laboratory cleanup.
4. State the dental aide's responsibility regarding inventory control.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. Modern Dental Assisting. 3rd ed. Philadelphia: W. B. Saunders Co., 1985.

Benson, Harold J., and Kenneth E. Kipp. Dental Science Laboratory Guide. 4th ed. Dubuque, IA: Wm. C. Brown Company, 1976.

INTRODUCTION:

There are basic guidelines the dental aide should follow when dealing with lab equipment. The lab is potentially dangerous if equipment is not treated with respect. This lesson covers some precautions to be taken while in the lab as well as tips for keeping the lab clean.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

OUTLINE: (Key Points)

I. General Safety Precautions

   A. Do not wear loose, flowing clothing around lab equipment

      1. Loose sleeves on blouses or shirts can easily be caught in model trimmer or lathe.

      2. Many labs use portable gas burners for certain procedures; loose clothing is a fire hazard.

   B. Wear safety glasses while lathe or model trimmer is in use.

      1. Chips of stone or acrylic often fly from equipment during trimming and polishing.

      2. Serious damage to vision can result from flying debris.

   C. DO NOT operate equipment without proper training and supervision!

   D. Do not allow equipment to remain on when not in use.

      1. Anyone accidentally brushing against running equipment would be injured.

      2. Equipment left running while not in use can overheat and catch fire or break down.

   E. Do not attempt to clean, repair or maintain equipment without proper training and supervision.

      1. There is an electrical shock hazard with most lab equipment.

      2. Lathes and model trimmers have sharp, rough surfaces that can cause injury.

II. Special Precautions When Dealing With Gas Tanks

A. Oxygen

1. Oxygen is a volatile gas. NEVER allow an open flame to come anywhere near oxygen tanks.

2. NEVER attempt to remove or adjust the regulator on an oxygen tank.

    a. The tanks are filled under pressure and the regulator controls pressure flow.

    b. If the regulator is accidentally knocked off or dislodged, the oxygen tank becomes an unguided missile that can literally explode through walls or ceilings from sudden release of pressure. (II-1)

3. Never allow oil of any type to come into contact with regulator or pressure valve. Petroleum products of any type cause pure oxygen to explode.

B. Other gas tanks

1. Some offices use propane or natural gas to fuel special torches.

2. Never turn a propane or natural gas tank valve on. This task should be left to a qualified lab technician or dentist.

    a. Propane and natural gas are lethal if inhaled for any significant amount of time.

    b. Leaking gas will combust spontaneously in the presence of a spark or open flame.

III. Laboratory Cleanup

A. Do not place any article contaminated with saliva directly on countertops.

1. There is a risk of cross contamination for the staff and the patients from doing so.

2. Place contaminated articles on a paper towel or plastic-backed napkin.

B. Wipe counter tops and other surfaces down with a suitable disinfectant cleaner.

C. When disposing of paper products in the lab, carefully check them to make certain that valuable impressions or models are not caught in the mass.

D. NEVER throw ANY impression, appliance, model or other lab work into the trash unless you are told specifically to do so by the doctor or a qualified staff member!

IV. Inventory Control

A. If you are told to obtain supplies from the store room, make certain that you are aware of office policy for inventory control.

B. Some offices have a check list that is used to determine when certain supplies are running low.

C. Failure to maintain a supply check list can result in running out of necessary supplies during a procedure.

V. Summary and Conclusion

A. General safety precautions

B. Special precautions for gas tanks

C. Laboratory cleanup

D. Inventory control

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VII: BASIC LABORATORY PROCEDURES

INTERACTION ITEMS:

1. What might happen if the dental aide were to bump into an oxygen tank and knock it over?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

EVALUATION ITEMS:

1. List five general safety precautions to be taken in the dental lab.

   a.

   b.

   c.

   d.

   e.

2. List three precautions to be taken when dealing with oxygen tanks.

   a.

   b.

   c.

3. List four key points in cleaning the lab.

   1.

   2.

   3.

   4.

4. Briefly state the dental aide's responsibility regarding inventory control.

LESSON PLAN: 2

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

ANSWERS TO EVALUATION ITEMS:

1. a. Do not wear loose flowing clothing.
   b. Wear safety glasses while lab equipment is running.
   c. Do not operate equipment without training and supervision.
   d. Do not allow equipment to remain on when not in use.
   e. Do not attempt to clean, repair or maintain equipment without training and supervision.

2. a. Never allow open flame to come near tanks.
   b. Never attempt to remove or adjust regulator.
   c. Never allow any oil to contact regulator or pressure valve.

3. a. Wipe countertops down with suitable disinfectant.
   b. Check paper products before disposal for appliances, etc.
   c. Do not place saliva contaminated articles directly on countertop.
   d. Do not throw anything away without specific instructions to do so.

4. Be aware of office policy for inventory control. If there is a check list for items removed from storage, the aide should make sure to check items off the list as they are removed from inventory.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

SCOPE OF UNIT:

This unit introduces basic responsibilities of the dental aide regarding laboratory and lab safety guidelines including identification and maintenance of equipment, general clean up responsibilities, and an overview of the basic lab procedure for taking and pouring alginate impressions.

INFORMATION TOPIC: VII-3 OR DEMONSTRATION:

ALGINATE IMPRESSIONS
(Lesson Title)

LESSON OBJECTIVES - THE STUDENT WILL BE ABLE TO:

1. Match terms presented in this lesson to correct definitions.
2. List two purposes for taking alginate impressions.
3. Differentiate between the uses of plaster and stone when pouring impressions.
4. Explain the purpose of vibrating plaster and stone.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

INFORMATIONAL ASSIGNMENT:

REFERENCES:

Torres, Hazel O. and Ann Ehrlich. *Modern Dental Assisting*. 3rd ed. Philadelphia: W. B. Saunders Co., 1985.

Benson, Harold J., and Kenneth E. Kipp. *Dental Science Laboratory Guide*. 4th ed. Dubuque, IA: Wm. C. Brown Company, 1986.

Dental Assistant Teacher's Guide, #HOI006. Oklahoma State Department of Vocational and Technical Education, Curriculum Instructional Materials Center.

INTRODUCTION:

This lesson includes a brief description of the materials used to take and pour impressions as well as some background information regarding uses of impressions in dentistry.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

OUTLINE: (Key Points)

I. Terms and Definitions

   A. Alginate (ăl′-jĭn-āt) - a salt of alginic acid, which, when mixed with water in accurate proportions, forms an irreversible hydrocolloid gel used for making impressions

   B. Gypsum (jĭp′-sŭm) - a naturally occurring mineral which, when heated to drive off water and ground to a fine powder, is used to manufacture dental plaster and stone

   C. Impression - an imprint, or negative form, of the teeth and/or other tissues of the oral cavity in a plastic material that becomes relatively hard, or set, when in contact with these tissues

   D. Plaster - calcium sulfate in the form of a fine powder in which about half the water has been driven off; when the powder is mixed with water, the mixture solidifies into a solid mass; used extensively in dentistry

   E. Stone - a gypsum derivative similar to plaster but with nonporous grains that result in a stronger, more accurate product.

II. Purpose of Taking Impressions

   A. Alginate

      1. Alginate is a fine powder derived from seaweed.

      2. When mixed with water, alginate forms a putty-like material that will accurately record the anatomy of the oral cavity.

      3. Alginate impressions have many uses.

         a. Impressions for study models

            (1) Before and after casts for orthodontics

            (2) Casts for devising treatment plans for patients who need extensive treatment

b. Impressions for retainers after orthodontic treatment

c. Impressions for opposing arch

(1) When a crown is prepared, the lab prefers an impression of the opposing arch to indicate how the patient occludes.

(2) When a denture is constructed, the lab must manufacture it to fit the teeth in the opposing arch, so that occlusion will be correct.

B. Other types of impression materials

1. Rigid impression materials

a. Used only for edentulous mouths because rigid materials would get caught in between and around the teeth.

b. Can be used for denture impressions or, in small quantities, as bite registration material

2. Elastomeric impression materials (rubber base)

a. Used for crown and bridge impressions and denture impressions

b. Stronger and more accurate than alginate, yet elastic enough to be removed from between and around teeth without distorting the impression

III. Pouring Impressions

A. Plaster and stone

1. Impressions are used as a mold into which a gypsum product is slowly vibrated in order to reproduce oral anatomy.

2. Plaster is used only when extreme detail is not required.

3. Stone is used for crown and bridge impressions or any time a smooth hard surface for the cast is desired.

B. Manipulating plaster and stone

1. Dry plaster or stone powder is mixed with water to form a putty.

2. The bowl of plaster or stone putty is vibrated for a few seconds to remove trapped air in the mix.

3. The mix of plaster or stone is slowly vibrated into the impression in small increments and left to air dry till the gypsum product is fully set.

IV. Summary and Conclusion

A. Terms and definitions

B. Purpose of taking impressions

C. Pouring impressions

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

INTERACTION ITEMS:

1. Why is it important to obtain an accurate reproduction of the patient's oral cavity?

CLASSROOM, LABORATORY, OR OTHER ACTIVITIES:

1. Have students observe taking and pouring alginate impression in the classroom, lab or on a field trip to an actual dental lab.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

EVALUATION ITEMS:

Match the terms listed below (a-d) to correct definitions.

____ 1. Calcium sulfate in the form of a fine powder in which about half of the water has been driven off; when the powder is mixed with water, the mixture solidifies into a solid mass; used extensively in dentistry

____ 2. A salt of alginic acid which, when mixed with water in accurate proportions, forms an irreversible hydrocolloid gel used for making impressions.

____ 3. An imprint, or negative form, of the teeth and/or other tissues of the oral cavity in a plastic material that becomes relatively hard, or set, when in contact with these tissues.

____ 4. Similar to description #1 but with nonporous grains that result in a stronger, more accurate product.

a. Stone
b. Impression
c. Plaster
d. Alginate

5. List two purposes for taking alginate impressions.

a.

b.

6. Describe when plaster may be used to pour an impression and the circumstances under which dental stone would be the material of choice.

7. Explain why plaster or stone is vibrated after mixing and while pouring an impression.

LESSON PLAN: 3

COURSE TITLE: DENTAL AIDE

UNIT VII : BASIC LABORATORY PROCEDURES

ANSWERS TO EVALUATION ITEMS:

1. c
2. d
3. b
4. a
5. The student may list any two of the following:
   a. Impressions for study models
   b. Impressions for retainers after orthodontic treatment
   c. Impressions of opposing arch
6. Plaster is used when extreme accuracy of the cast is not required and stone is used when an accurate, smooth hard surface is necessary.
7. Plaster and stone are vibrated in order to remove trapped air in the mix.

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Learning Objectives for Dental Aide

Student Name: ______________________________

Permanent Address: ______________________________

Social Security Number: ______________________________

Instructor's Signature: ______________________________

Directions: This profile provides a permanent record for student, instructor, and/or industry representative and corresponds directly to the lessons presented in this curriculum guide. Compile your evaluation of the student (trainee) by transferring the appropriate "yes/no" rating from the various demonstration lessons, or by indicating "yes/no" if the student (trainee) has mastered objectives contained in information lessons.

YES	NO		Historical Foundation and Overview
		1.	Identify the founder of modern dentistry
		2.	Identify the first American dentist
		3.	Identify the first woman dentist to practice in the U.S.
		4.	Complete statements describing events leading to advancement of dentistry in the U.S.
		5.	Identify basic dental health team members and responsibilities associated with each
		6.	Identify educational requirements associated with dental health team members
		7.	Identify licensure requirements associated with dental health team members
		8.	List sources of job opportunities for dental personnel
		9.	Match specialized dental fields to correct descriptions

YES	NO		Infection Control
		10.	List sources of cross contamination
		11.	Identify methods by which microorganisms are transmitted
		12.	Identify two common methods of transmission of infection in a dental office
		13.	List dangerous pathogenic microorganisms that may be transmitted in a dental office
		14.	Identify methods of controlling transmittal of pathogenic microorganisms in a dental office
		15.	Wash hands
		16.	List steps in preparation of instruments prior to disinfection
		17.	Define disinfection
		18.	List chemical disinfection agents
		19.	List surfaces to be wiped down after each patient
		20.	State usual length of time for exposure of item to disinfecting agent

YES	NO		Basic Anatomy of the Oral Cavity
		21.	Define maxillae and mandible
		22.	Describe the aveolar process of the maxillae and the mandible
		23.	Identify the maxillae, mandible, and temporomandibular joint
		24.	Identify the transverse and the midsagittal planes
		25.	List alternate names for the transverse and midsagittal planes
		26.	Label dental quadrants
		27.	Identify functions of midsagittal and transverse planes
		28.	Match terms associated with names, types and functions of teeth to correct definitions
		29.	List basic types of teeth and describe functions of each
		30.	Identify teeth within the dental arches
		31.	List names of anterior and posterior teeth
		32.	Differentiate between anterior and posterior teeth
		33.	Define terms related to primary dentition
		34.	Distinguish between succedaneous and nonsuccedaneous teeth
		35.	Describe the process of root resorption and exfoliation
		36.	Define mixed dentition and the approximate ages when it begins and ends
		37.	Identify the primary teeth
		38.	Identify tooth surfaces
		39.	Identify teeth using the universal notation system
		40.	Identify teeth using the Palmer notation system
		41.	Identify anatomical parts of teeth
		42.	Identify tissues that compose teeth
		43.	Label parts and tissues of a tooth
		44.	Match terms related to dental health to correct definitions
		45.	Describe common causative factors in tooth decay
		46.	Describe common causative factors in periodontal disease
		47.	Explain and demonstrate proper brushing and flossing technique
		48.	Describe the benefits of professional prophylaxis and flouride

YES	NO		Basic Office Procedures
		49.	List effective telephone techniques
		50.	List ineffective telephone techniques
		51.	List key points for confirming dental appointments
		52.	Accurately record telephone messages on a standard form
		53.	Describe the basic procedure for greeting patients and visitors as they enter the dental office
		54.	List considerations for patients with special needs
		55.	Describe approaches to take with fearful/anxious patients
		56.	List considerations in providing a comfortable reception area
		57.	List special supplies to be provided in the dental office restroom
		58.	Alphabetize patient names for filing

YES	NO		Operative Equipment and Procedures
___	___	59.	List major pieces of dental operatory equipment
___	___	60.	Identify the function of the adjustment controls on a dental patient's chair
___	___	61.	Identify component parts of the operator's unit and the assistant's unit
___	___	62.	Seat a patient
___	___	63.	Dismiss a patient
___	___	64.	List and describe types of records needed in a complete diagnosis
___	___	65.	List the components of a case presentation of treatment plan
___	___	66.	List four basic procedures performed in a general dentistry practice
___	___	67.	Identify indications for removal of a tooth
___	___	68.	Identify basic setup instruments
___	___	69.	List items needed for local anesthetic setup
___	___	70.	Match amalgam instruments to correct descriptions
___	___	71.	Match composite/esthetic instruments to correct descriptions
___	___	72.	Identify instruments used in surgical exodontics
___	___	73.	List items needed for suture setup

YES	NO		Radiology
___	___	74.	List properties of ionizing radiation
___	___	75.	Identify short-term and long-term effects of excessive radiation exposure
___	___	76.	List methods of protection from unnecessary radiation exposure
___	___	77.	Prepare radiographs for manual processors
___	___	78.	Manually process radiographs
___	___	79.	Describe the transport system of automatic processors
___	___	80.	List the main types of automatic processors
___	___	81.	Identify operation principles for automatic processors
___	___	82.	Describe advantages of automatic processors
___	___	83.	Mount a full mouth survey of 14 periapical films and 4 bitewing radiographs

YES	NO		Laboratory Procedures
___	___	84.	Identify basic dental lab equipment
___	___	85.	Differentiate between oxygen and nitrous oxide tanks on a portable nitrous oxide unit
___	___	86.	List rules to follow when maintaining lab equipment
___	___	87.	List general safety precautions to take in the dental lab
___	___	88.	List safety precautions to take when dealing with gas tanks
___	___	89.	List key points in laboratory cleanup
___	___	90.	State the aide's responsibility in inventory control
___	___	91.	Match terms associated with alginate impressions
___	___	92.	List two purposes for taking alginate impressions
___	___	93.	Differentiate between the uses of plaster and stone when pouring impressions
___	___	94.	Explain the purpose of vibrating plaster and stone

This is to Certify that:

____

Achieved the Learning Objectives
as Acknowledged for
Dental Aide
And is Therefore Recognized

This ________ *Day of* __________ *, 19*______

______________________ *Instructor*

______________________ *Administrator*